THE VASCULAR FLORA OF GILES COUNTY, TENNESSEE

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ABSTRACT

A survey of the vascular flora of Giles County, Tennessee was conducted between July 1998 and September 2004. A total of 1208 species and infraspecific taxa, representing 138 families and 553 genera, were documented from 30 qualitatively defined habitats, resulting in 912 county records. Several rare taxa were discovered, including two federally threatened species: *Apios priceana* and *Helianthus eggertii*. Other noteworthy rare species found were *Cimicifuga rubifolia*, *Perideridia americana*, *Stellaria fontinalis*, and *Xyris laxifolia* var. *iridifolia*. *Arenaria lanuginosa*, a Tennessee endangered species thought extirpated from the state, was rediscovered after not having been collected since 1948. In addition, three state records, *Achyranthes japonica*, *Euonymus kiautschovicus*, and *Eupatorium × pinnatifidum*, were found. Other noteworthy collections include *Baccharis halimifolia* and *Amaranthus powellii*, each representing second reports from Tennessee.

RESUMEN

Se realizó un estudio de la flora vascular de Giles County, Tennessee entre Julio de 1998 y Septiembre de 2004. Se documentaron un total de 1208 especies y taxa infraspecíficos, que representan 138 familias y 553 géneros, procedentes de 30 hábitats definidos cualitativamente, que aportaron 912 citas para el condado. Se descubrieron varios taxa raros, incluyendo dos especies amenazadas federalmente: *Apios priceana* y *Helianthus eggertii*. Otras especies notables raras encontradas fueron *Cimicifuga rubifolia*, *Perideridia americana*, *Stellaria fontinalis*, y *Xyris laxifolia* var. *iridifolia*. *Arenaria lanuginosa*, una especie amenazada de Tennessee que se creía eliminada del estado, se redescubrió después de no haber sido colectada desde 1948. Además, se encontraron tres citas para el estado *Achyranthes japonica*, *Euonymus kiautschovicus*, y *Eupatorium _ pinnatifidum*. Otras colecciones notables incluyen *Baccharis halimifolia* y *Amaranthus powellii*, ambas representan segundas citas para Tennessee.

INTRODUCTION

Giles County is in a portion of Tennessee that has received very little botanical attention. In 1998, the county's known flora consisted of 263 species and infraspecific taxa (Chester et al. 1993, 1997). In order to increase the knowledge of the flora of Giles County and of southern Middle Tennessee, a study of the county's flora was completed. The objectives of this study were to (1) compile an annotated list of the vascular flora of the county; (2) locate and document state and federally listed plants of conservation concern; and (3) qualitatively describe the county's plant communities.

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Study Area

Giles County is in southern Middle Tennessee (35°23'N, 87°03'W) near the center of the southern border of the state (Fig. 1). The county is ca. 50 km long (north to south) and 36 km wide (east to west) with a total area of 158,248 ha. It is entirely within the Interior Low Plateau Physiographic Province delimited by Fenneman (1938), and lies within two physiographic sections: the Highland Rim and the Central (Nashville) Basin (Quarterman & Powell 1978). The Highland Rim (HR) of Giles County is comprised of two subsections: the Eastern Highland Rim (EHR) and the Western Highland Rim (WHR). The portion of the Rim that occupies the extreme southeastern corner of the county is part of the EHR. The WHR is mostly confined to the western half of the county although portions extend to northeastern and east-central sections in the form of outlying knobs and ridges. Generally, elevations of the HR range from ca. 335 m in the northern portion of the county to 259 m in southern sections. Much of the Rim is rugged and dissected by numerous stream valleys, but in a few areas broad flat uplands occur. Strata of the Mississippian-aged Fort Payne Formation underlie most of the HR. Cherty limestone and chert are the main surface rocks and Chattanooga black shale is exposed on some slopes while on broader ridgetops a thin layer of loess is present (True et al. 1968).

Central and southeastern portions of Giles County lying along the valleys of the Elk River and Richland Creek are part of the Outer Central Basin (OCB) Subsection of the Central Basin Section. The Outer Basin of Giles County is separated from the main Central Basin region to the NNE by the Elk Ridge, a line of west-east trending, shale-capped hills that are technically part of the HR (DeSelm 1959). The OCB is below the level of the surrounding HR, beginning generally on the middle and lower slopes of the hills and extending downward into the valleys of the numerous streams that dissect the county (True et al. 1968). The elevation of the OCB ranges from 183 m to ca. 290 m. The topography varies from level to rolling in larger stream valleys to hilly near the HR. Strata of Ordovician-aged non-cherty phosphatic limestone underlie the OCB (True et al. 1968). Along the Elk River and in the lower section of the Richland Creek Valley, Quaternary-aged alluvial deposits exist. These deposits occur as nearly level to gently sloping terraces and bottomlands that are underlain by nonphosphatic limestone (True et al. 1968).

Five soil associations occur in the study area (True et al. 1968). The Mountview-Fullerton-Pickwick (MFP) association consists of acidic brown silty soils and reddish cherty clay soils that occur on the highest elevated areas of the HR. The topography varies from level to gently rolling. This association makes up about 8% of the county's soils. The Bodine-Mountview-Fullerton (BMF) association is acidic and is comprised of cherty soils, silty soils, and cherty clay soils on broken hills and in deep narrow hollows of the WHR. Although this association is restricted to the western half of the county it makes up 23%

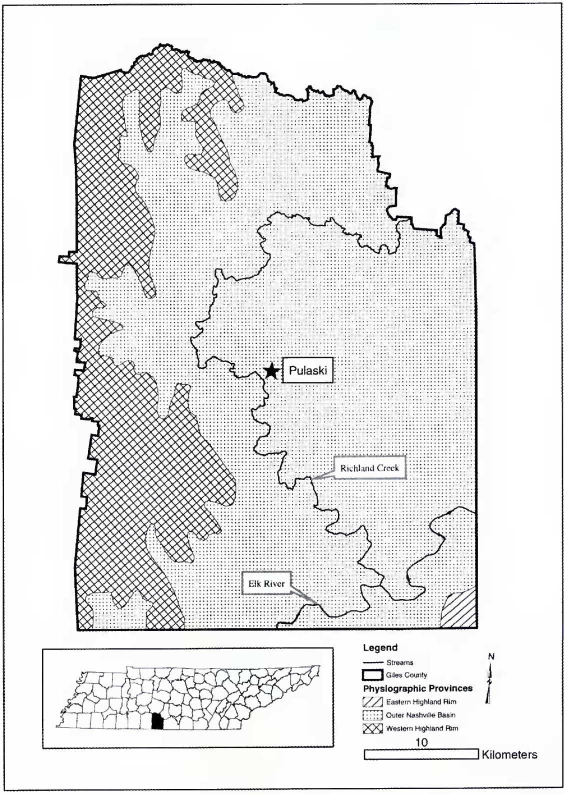

Fig. 1. Map of Giles County, Tennessee showing location of the Western Highland Rim, Eastern Highland Rim, Outer Central (Nashville) Basin, major streams, and the county seat (adapted from Griffith et al. 1998).

of the county's soils. On high winding ridges in east-central and northeastern Giles County, on outliers of the WHR, cherty acidic soils of the Bodine-Fullerton-Dellrose (BFD) association occur, occupying 10% of the county. The Dellrose-Bodine-Mimosa association (DBM) is a cherty and rocky soil found on steep slopes, ridgetops, low-lying knobs, and deep hollows. These soils vary from slightly to strongly acid and make up 27% of the county's soils. In the OCB in valleys of the Elk River, Richland Creek, and their larger tributaries, in bottomlands, on terraces, and on adjacent uplands, soils of the Staser-Armour-Maury (SAM) association occur. These soils are often phosphatic and are neutral to acidic; 32% of the county's soils are of this association (True et al. 1968).

Giles County lies within the Tennessee River drainage system. One of the Tennessee River's major tributaries, the Elk River, crosses the southeastern quarter of the county. The main tributary of the Elk River is Richland Creek. This large creek enters Giles County from the northeast, flows south through the central portion of the county, and empties into the Elk River in the south-central section. Both the Elk River and Richland Creek are medium-sized streams lined mostly by agricultural fields and wooded slopes. Limestone bluffs are frequent along the Elk River and the lower section of Richland Creek. Both streams are characterized by having a shallow channel, a slow to moderate flow, a rocky or gravelly substrate, and numerous gravel bars and shoals. Other important streams in the county include Big, Bradshaw, Buchanan, Indian, Shoal, Sugar, and Weakley creeks. These streams occur in the smaller valleys and are lined mostly by small fields and wooded slopes. They, like the Elk River and Richland Creek, have a rocky or gravelly substrate and frequent gravel bars, shoals, and riffles. While most of the streams in the county are like those described above, Piney Creek on the EHR of extreme southeastern Giles County is a slow-flowing stream that resembles streams of the southeastern Coastal Plain. It has a muddy substrate and is bordered mostly by wet flatwoods.

The study area is located in Köppen's Cfa climatic type and is characterized by a mild rainy climate with hot summers and lacks a distinct dry season (Ackermann 1941). The average growing season is 190 days and extends from April 13 to October 20. The mean annual temperature is 15°C. July is typically the hottest month with an average temperature of 32°C, while January is the coldest with an average temperature of -0.4°C. Annual precipitation totals 139.04 cm with snow accounting for about 12.19 cm. February and March are the wettest months and September and October the driest (True et al. 1968).

Giles County is within the eastern portion of Braun's (1950) Western Mesophytic Forest Region approximately 80-90 km west of the Mixed Mesophytic Forest Region. The Western Mesophytic Forest is transitional to surrounding forest regions and lacks a combination of characterizing dominants. Local climate, topography, and soil conditions influence vegetational characteristics of a particular area (Braun 1950, Chester 1995). Most of the county's forests clearly fit into Braun's Western Mesophytic Forest Region but in the eastern portion of the county, on sheltered north slopes and in ravines, forests with qualities of Braun's (1950) Mixed Mesophytic Forest Region occur.

METHODS

Specimens were collected between July 1998 and September 2004. Thirty plant communities, including all types known to occur within the county, were sampled during the study. Collecting sites were located by driving throughout the county, and by consulting county road, topographic, and county soil survey maps. Specimens were identified using standard field manuals: Small (1933), Fernald (1950), Radford et al. (1968), Cronquist (1980), Isely (1990), Gleason and Cronquist (1991), and Yatskievych (1999). In addition to native taxa, many non-native species were collected or observed during the survey. Non-native taxa listed in the annotated checklist include only those taxa that appeared to be naturalized or persistent. Most voucher specimens have been deposited in the herbarium at the University of Tennessee (TENN). Some specimens have been deposited in the herbaria of Austin Peay State University (APSC), Middle Tennessee State University (MTSU), or the Vanderbilt (VDB) collection at the Botanical Research Institute of Texas. Furthermore, the herbaria at MTSU, TENN, and VDB were consulted for species not collected during this study. All such specimens encountered were checked for accuracy and each was annotated. The status of federal and state listed rare species was taken from the Tennessee Natural Heritage Program (2003). All information concerning the location, habitat, and population status of rare species discovered during the inventory was provided to the Tennessee Natural Heritage Program to aid in their protection. Lastly, the plant communities of the county were qualitatively described according to their physiographic location, soil association, topographic position, and species composition.

RESULTS AND DISCUSSION

Floristic Summary

Of ca. 2000 voucher specimens, 1186 species and infraspecific taxa were collected, resulting in 912 county records. An additional 22 taxa were observed during the study for which vouchers were not collected. Therefore, the total flora of Giles County included 1208 species and infraspecific taxa representing 138 families and 553 genera distributed among 36 pteridophytes, 5 gymnosperms, 28 monocots, and 883 dicots. Asteraceae was the largest family with 151 taxa, followed by Poaceae (109), Cyperaceae (75), Fabaceae (63), Rosaceae (53), Lamiaceae (34), Liliaceae (33), Brassicaceae (31), Ranunculaceae (30), and Scrophulariaceae (30). The woody flora of the county was quite large with 254 taxa. The largest woody genera were *Quercus* (18 taxa, including one hybrid), *Prunus* (10), *Rubus* (9), *Carya* (8), *Crataegus* (7), *Acer* (6), and *Salix* (6). *Cornus*, *Euonymus*, *Hypericum*, *Ulmus*, and *Vaccinium* each had five taxa. *Aesculus* (including one hybrid), *Ilex*, *Lonicera*, *Pinus*, *Rhus*, *Smilax*, and *Vitis* each had four taxa. Woody genera represented by three taxa included *Celtis*, *Clematis*, *Fraxinus*, *Hydrangea*, *Magnolia*, *Rhododendron*, *Rosa*, and *Viburnum*. The largest herbaceous genera were *Carex* (47), *Juncus* (14), *Solidago* (14), *Polygonum* (13), *Eupatorium* (12), *Symphyotrichum* (12), *Viola* (12), *Desmodium* (11), *Dichanthelium* (11), *Asclepias* (10), *Cyperus* (10), *Helianthus* (10), and *Ranunculus* (10). Seventy-nine percent of the flora (955 taxa) consisted of native species while introduced taxa accounted for 237 taxa (20%) (Wofford and Kral 1993). An additional eight species (<1%) were native to portions of Tennessee but did not appear to be native to Giles County. A complete summary of the flora of Giles County is provided in Table 1.

Rare/Protected Plants

In Giles County, 17 taxa are considered rare and are tracked by the Tennessee Division of Natural Heritage (Table 2). Of these, two are federally threatened (LT), two are state endangered (E), five species are listed as state threatened (T), one is listed as special concern-proposed threatened (S-PT), three species are listed as special concern (S), and the remaining four taxa are threatened or of special concern due to commercial exploitation (T-CE, S-CE) (Tennessee Natural Heritage Program 2003).

Prior to this survey, seven rare species had been reported from the county. However, one previously reported rare taxon, *Galium asprellum* Michx. (*R. Kral 64888*, VDB), was based on a misidentified specimen of *Galium mollugo*, a non-native species. Another, *Allium tricoccum*, was reported from the county based on a Kral collection (*R. Kral 54907*, VDB). Upon closer inspection, it was determined that the specimen best corresponds with *A. tricoccum* var. *burdickii* instead of the more eastern *A. tricoccum* var. *tricoccum*. Two additional taxa, *Leavenworthia exigua* var. *exigua* and *Schoenolirion croceum*, were reported from the county based on collections made in the 1950s; unfortunately the populations were not relocated during the study and these taxa are presumed extirpated from the county. A fifth species, *Arenaria lanuginosa*, was collected for the first time in Tennessee from Giles County in 1948 along bluffs of the Elk River (*A.J. Sharp, S. Fairchild, & E. Clebsch 9840*, TENN). As of 1999, the species was listed as endangered and possibly extirpated from the state (Tennessee Natural Heritage Program 1999). In the summer of 2000, *A. lanuginosa* was rediscovered along two bluffs of the Elk River after not having been observed for over 50 years (Estes & Chester 2001). A third Giles County population was found in 2001 (Estes 2004).

As a result of this study, 11 rare taxa were discovered that represent new county records. The most significant were *Apios priceana* and *Helianthus eggertii* (United States Fish and Wildlife Service 1993, 1999), both listed as federally

TABLE 1. Summary of the vascular flora known from Giles County, Tennessee.

Group	Families	Genera	Species and Infraspecific Taxa		
			Native	Non-native	Total
Pteridophytes	14	25	36	0	36
Gymnosperms	2	2	2	3	5
Angiosperms					
Monocots	19	101	231	53	284
Dicots	103	425	686	197	883
Total	**138**	**553**	**955**	**253**	**1208**

TABLE 2. The rare vascular plant species known from Giles County, Tennessee.

Scientific Name	Federal Status	State Status
Apios priceana	LT[1]	E[2]
Helianthus eggertii	LT	T[3]
**Arenaria lanuginosa*		E
Perideridia americana		E
Cimicifuga rubifolia		T
Juglans cinerea		T
**Lesquerella densipila*		T
**Schoenolirion croceum*		T
Stellaria fontinalis		T
Xyris laxifolia var. *iridifolia*		S-PT[4]
Castanea dentata		S[5]
**Leavenworthia exigua* var. *exigua*		S
**Phemeranthus calcaricus*		S
**Allium tricoccum* var. *burdickii*		T-CE[6]
Lilium michiganense		T-CE
Hydrastis canadensis		S-CE[7]
Panax quinquefolius		S-CE

* Rare taxon known from Giles County prior to this study

[1] Taxon listed as threatened in the United States

[2] Taxon listed as endangered in Tennessee

[3] Taxon listed as threatened in Tennessee

[4] Taxon currently listed as special concerned-proposed threatened in Tennessee

[5] Taxon listed as special concern in Tennessee

[6] Taxon listed as threatened in Tennessee due to commercial exploitation

[7] Taxon listed as special concern in Tennessee due to commercial exploitation

threatened by the United States Fish and Wildlife Service. Estes (2004) provided a more detailed discussion of the significance of these and other notable rare or uncommon plants of Giles County.

Additional Noteworthy Collections

A large established population of the Asiatic species *Achyranthes japonica* var. *hachijoensis* was discovered in extreme southern Giles County on a wooded floodplain of the Elk River at the base of a limestone bluff ca. 3 river miles upstream from Limestone County, Alabama. Medley et al. (1985) first reported this species as new to North America based on material collected from northeastern Kentucky and adjacent West Virginia. This species also has been reported from Ohio (Flora of North America Editorial Committee 2003). The discovery of *A. japonica* var. *hachijoensis* in Giles County represents a state record, a range extension of ca. 500–600 km to the southwest, and the first report of the species from the Tennessee River watershed.

Euonymus kiautschovicus, an introduced shrub native to China, was collected from two localities in Giles County, one along a roadside embankment at the edge of disturbed woods and the other from a weedy bank between a stream and roadside. This species has not previously been reported from Tennessee. At both sites, only one or two plants were found and did not seem to exhibit strong invasive potential.

Eupatorium × *pinnatifidum*, a hybrid species originating from a cross between *E. capillifolium* and *E. perfoliatum*, was collected for the first time in Tennessee from flat uplands on the EHR at the edge of a clearing adjacent to wet flatwoods dominated by *Acer rubrum*, *Pinus taeda*, *Quercus nigra*, and *Q. phellos*. Both *E. capillifolium* and *E. perfoliatum* were growing within 10 m of the *E.* × *pinnatifidum* plants.

At the site where *E.* × *pinnatifidum* occurred, several individuals of *Baccharis halimifolia*, a species formerly restricted to the southeastern Coastal Plain were observed. The shrubs were approximately 1-2 m tall. One month prior to the discovery of *B. halimifolia* in Giles County, one individual was discovered ca. 87 km to the NNE in Rutherford County, Tennessee (Estes 2004). This is the second report for *B. halimifolia* from the state. *Baccharis halimifolia* should be considered an exotic species in Tennessee and is to be expected in disturbed areas across the southern half of the state.

A third species found in Giles County that deserves special mention is *Amaranthus powellii*. This species was discovered in August 2003 on a roadside next to a cornfield in association with *Amaranthus palmeri*, *A. spinosus*, *Eragrostis pectinacea*, and *Senna obtusifolia*. At that time, it had not been previously documented from the state; but shortly thereafter, during the preparation of this manuscript, the Flora of North America Editorial Committee (2003) reported *A. powellii* from Tennessee. This is apparently the second report for the species from the state.

Plant Communities

Thirty qualitatively defined plant communities were sampled in the county.

These were divided into four sections, those that occurred on the HR, those of the OCB, aquatic or riverine communities, and anthropogenically altered or maintained habitats. The 20 communities included for the HR and OCB and the three habitats listed for the Streams and Riverine Communities section were generally natural communities, although most have sustained some type of human-related disturbance. The seven types of Disturbed Sites sampled included areas that generally lacked natural qualities, appeared recently affected by anthropogenic disturbances, or were maintained as unnatural communities by human activities.

HIGHLAND RIM

1. Oak-Hickory Forests (OH).—The oak-hickory community was the dominant upland forest type on dry to submesic sites on the HR, occupying broad upland flats, ridge-tops, and upper slopes of south and west-facing hillsides. This community was mostly associated with the Mountview, Bodine, and Dickson series of the MFP, BMF, and BFD soil associations. The canopy contained several species of oak including *Quercus alba*, *Q. coccinea*, *Q. montana*, *Q. stellata*, and *Q. velutina* as well as a few hickory species, including *Carya alba*, *C. glabra*, and *C. ovata* var. *ovata*. Less dominant but common species were *Acer rubrum*, *Nyssa sylvatica*, *Oxydendrum arboreum*, and *Sassafras albidum*. In the subcanopy and understory *Amelanchier arborea*, *Cornus florida*, *Kalmia latifolia*, *Rhododendron canescens*, *Styrax grandifolia*, *Vaccinium arboreum*, and *V. stamineum* were occasional to common constituents. Woody vines common to this community included *Smilax glauca*, *S. rotundifolia*, *Toxicodendron radicans*, *Vitis aestivalis* var. *aestivalis*, and *V. rotundifolia*. Subshrubs and low shrubs were *Chimaphila maculata*, *Hypericum hypericoides* subsp. *multicaule*, and *Vaccinium pallidum*. The herbaceous layer was sparsely vegetated when compared to more mesic forests, but included *Carex picta*, *Coreopsis major*, *Cunila origanoides*, *Danthonia spicata*, *Desmodium rotundifolium*, *Dichanthelium dichotomum* var. *dichotomum*, *Eurybia hemispherica*, *Solidago erecta*, *S. hispida*, *S. ulmifolia*, and *Viola hirsutula*.

2. Rich Forests (RF).—Rich mesophytic forests were primarily found on lower to middle north and east facing slopes, in ravines, and in narrow stream valleys. Such sites were associated mostly with soils of the Bodine and Dellrose series of the BMF soil association. The canopy often contained *Acer nigrum*, *A. saccharum*, *Aesculus flava* (mostly EHR), *Carya cordiformis*, *Fagus grandifolia*, *Fraxinus americana*, *Quercus alba*, *Q. rubra*, *Tilia americana*, *T. heterophylla*, and *Ulmus rubra*. Woody vines of this community included *Menispermum canadense*, *Parthenocissus quinquefolia*, and *Smilax tamnoides*. Common understory shrubs or small trees were *Asimina triloba*, *Carpinus caroliniana*, *Dirca palustris*, *Hydrangea cinerea*, *Lindera benzoin*, and *Staphylea trifolia*. In the herbaceous layer *Actaea pachypoda*, *Adiantum pedatum*, *Anemone acutiloba*, *Botrychium virginianum, Cardamine concatenata, Carex cumberlandensis, C. albursina, C. kraliana, Diplazium pycnocarpon, Erythronium americanum* subsp. *harperi, Hydrophyllum appendiculatum, Jeffersonia diphylla, Oxalis illinoensis, Pachysandra procumbens, Phacelia bipinnatifida, Phlox divaricata, Polemonium reptans, Trillium cuneatum, T. flexipes, T. stamineum, Valeriana pauciflora*, and *Viola pubescens* var. *scabriuscula* were present, in addition to many others.

3. Flatwoods (FW).—This community occurred only in extreme southeastern Giles County on the EHR along Piney Creek in association with soils of the Guthrie and Taft series of the MFP soil association. The site was level and the soil saturated, often for much of the year. *Acer rubrum, Nyssa biflora, N. sylvatica, Quercus nigra*, and *Q. phellos* dominated the canopy while *Q. lyrata* and *Pinus taeda* were occasional associates. Common small trees and shrubs were *Arundinaria gigantea, Cornus foemina, Crataegus marshallii, Hypericum crux-andreae, H. hypericoides* subsp. *hypericoides, Ilex verticillata, Photinia pyrifolia, Rhododendron canescens, Styrax americana, Vaccinium fuscatum, Viburnum dentatum* var. *lucidum*, and *V. nudum* var. *nudum*. Noteworthy herbaceous species of this community included *Arisaema triphyllum* subsp. *pusillum, Carex flaccosperma, C. gigantea, C. intumescens, C. joorii, Chasmanthium laxum, Galium obtusum, Gratiola neglecta, G. virginiana, Isotria verticillata, Osmunda cinnamomea, O. regalis, Platanthera flava* var. *flava*, and *Triadenum virginicum*. Clearings and wet meadows within the flatwoods community supported a number of herbaceous species that were not found elsewhere in the county. Some of these species are more common on the southeastern Coastal Plain. Examples include *Agalinis purpurea, Eryngium prostratum, Gratiola pilosa, Ludwigia linearis, Mikania scandens, Mitreola petiolata, Rhexia mariana* var. *interior, R. mariana* var. *mariana, R. virginica*, and *Spiranthes vernalis*.

4. Bluffs and Rock Outcrops (RO).—Outcroppings of limestone and less frequently shale generally were located on the slopes of hills or often in narrow ravines or along watercourses, mostly in the strongly dissected portion of the HR. Such outcrops were mostly associated with Rockland of the BMF soil association. The rock outcrops were almost exclusively located in or closely surrounded by forested areas. In some places, sizeable bluffs also occurred. Two types of bluff or rock outcrop communities of the HR were identified: those that were relatively moist and those that were dry to xeric. The more mesic bluffs and rock outcrops were located mostly on north or east facing exposures while the drier ones were typically associated with south or west facing aspects. Shrubs or woody vines associated with moist sites included *Decumaria barbara, Hydrangea cinerea*, and *Philadelphus hirsutus*. Herbaceous species common to moist bluffs were *Aquilegia canadensis, Arabis laevigata, Asplenium rhizophyllum, Cystopteris bulbifera, C. tennesseensis, Galium triflorum, Heuchera villosa, Parietaria pensylvanica, Saxifraga virginiensis, Sedum ternatum, Solidago caesia*, and *Thalictrum dioicum*. On drier sites, some of the above species also were present but notable additions included *Andropogon gerardii, Asclepias verticillata, Cheilanthes lanosa, Oxalis violacea, Packera obovata, Pellaea atropurpurea, Pleopeltis polypodioides* subsp. *michauxiana, Polymnia canadensis, Sedum pulchellum, Solidago sphacelata,* and *Woodsia obtusa.*

5. Barrens (RB).—Portions of western Giles County lie within the Barrens of the southwestern Highland Rim described by Shanks (1958). Barrens were mostly encountered on soils of the Mountview and Dickson series of the MFP and BMF soil associations. The county's highest quality barrens were found on the undissected portion of the HR in the southwestern quarter of the county but other good examples occurred on thin ridges and even in some valleys throughout the western edge of the county. They occurred mostly at the margins of oak-hickory forest, often along roadsides, and were apparently principally maintained as open areas by periodic mowing. Without periodic disturbance the barrens likely would be succeeded by oak-hickory forest. Although the barrens themselves lacked trees for the most part, species that occasionally intruded from surrounding oak-hickory forest included *Oxydendrum arboreum, Pinus taeda, Quercus coccinea, Q. marilandica, Q. stellata,* and *Sassafras albidum.* Small trees and shrubs of the barrens were *Ceanothus americanus, Malus angustifolia, Rhus copallinum, Rubus flagellaris, Salix humilis* var. *humilis, Vaccinium arboreum,* and *V. stamineum.* Perennial grasses and members of the Asteraceae and Fabaceae dominated the barrens. The most important grasses were *Andropogon gerardii, A. gyrans, A. virginicus, Dichanthelium* spp., *Panicum anceps, Saccharum alopecuroidum, Schizachyrium scoparium* var. *divergens, S. scoparium* var. *scoparium,* and *Tridens flavus* var. *flavus.* Other herbaceous species were *Ambrosia bidentata, Angelica venenosa, Asclepias amplexicaulis, Aureolaria pectinata, Chamaecrista fasciculata, C. nictitans, Conyza canadensis* var. *pusilla, Coreopsis tripteris, Desmodium* spp., *Eupatorium* spp., *Euphorbia corollata, Eurybia hemispherica, Galium pilosum, Helianthus* spp. (including *H. eggertii*), *Hypericum drummondii, H. gentianoides, Lespedeza* spp., *Liatris spicata, L. squarrulosa, Parthenium integrifolium, Pteridium aquilinum* var. *latiusculum, Silphium mohrii, Solidago* spp., *Spiranthes lacera* var. *gracilis, Symphyotrichum* spp., *Veronicastrum virginicum,* and *Viola sagittata.*

6. Marshes (RM).—Marshes were more or less open wetland areas with standing water and were dominated by herbaceous vegetation and shrubs. Those surveyed occurred at the headwaters of small streams and in natural upland depressions. This community was restricted to soils of the Guthrie, Taft, and Lee series of the MFP soil association. Some were created by beaver activity; others were created by human actions such as stream damming and road construction. Trees and large shrubs were mostly restricted to their margins. Important large tree species were *Acer rubrum, Liquidambar styraciflua, Nyssa sylvatica, Quercus phellos, Salix nigra,* and rarely *Betula nigra.* Shrubs included *Cephalanthus occidentalis, Itea virginica, Photinia pyrifolia, Rhododendron* *canescens*, *Vaccinium corymbosum*, *V. fuscatum*, and *Viburnum nudum* var. *nudum*. Noteworthy emergent or marginal herbaceous species were *Carex crinita* var. *brevicrinis*, *C. joorii*, *C. lupuliformis*, *Hibiscus moscheutos* subsp. *moscheutos*, *Juncus effusus*, *J. repens*, *Osmunda cinnamomea*, *O. regalis*, *Panicum rigidulum* var. *pubescens*, *Platanthera ciliaris*, *Proserpinaca palustris*, *Rhexia mariana* var. *interior*, *Rhynchospora glomerata*, *Saccharum baldwinii*, *Scirpus cyperinus*, *Sparganium americanum*, *Typha latifolia*, and *Viola* × *primulifolia*. Few floating or submerged aquatics were observed; the most abundant were *Lemna minor*, *Potomogeton diversifolius*, and *Spirodela polyrrhiza*.

7. Wet Meadows (WM).—Wet meadows were frequently encountered in valleys along small streams or in upland swales. They occurred on soils of the Lobelville, Lee, and Lynnville series associated with the MFP, BMF, and BFD soil associations. These sites appeared to be maintained as open areas by periodic grazing or mowing thereby preventing the establishment of large shrubs and trees. The most common shrubs found in the wet meadows included *Alnus serrulata*, *Amorpha fruticosa*, *Cephalanthus occidentalis*, *Cornus amomum*, and *Salix sericea*. Common herbaceous taxa were *Acorus calamus*, *Alisma subcordatum*, *Apios americana*, *Asclepias incarnata* subsp. *incarnata*, *Bidens aristosa*, *B. cernua*, *Boehmeria cylindrica*, *Carex frankii*, *C. vulpinoidea*, *Commelina virginica*, *Dichanthelium dichotomum* var. *ramulosum*, *D. scoparium*, *Eupatorium fistulosum*, *E. perfoliatum*, *Hibiscus moscheutos* subsp. *moscheutos*, *Hymenocallis occidentalis*, *Impatiens capensis*, *Juncus coriaceus*, *Lobelia cardinalis*, *L. siphilitica*, *Ludwigia alternifolia*, *Mentha* × *piperita*, *Mimulus alatus*, *Panicum rigidulum* var. *rigidulum*, *Polygonum hydropiperoides*, *P. sagittatum*, *Rhexia virginica*, and *Solidago gigantea*. At one site on an outlier of the HR in northeastern Giles County, a wet meadow was found that contained three species that are uncommon in Middle Tennessee: *Panicum verrucosum*, *Paspalum fluitans*, and *Trachelospermum difforme*.

8. Acidic Seeps (AS).—This community type was restricted to forested ravine bottoms in extreme northwestern Giles County in the upper sections of small HR streams. The soils of acidic seeps are part of the Lee series, a member of the BMF soil association. The surrounding forest type was predominantly oak-hickory. Some species common to the oak-hickory community were present among the seeps but were mostly restricted to dry hummocks. Such taxa included *Acer rubrum*, *Liquidambar styraciflua*, *Nyssa sylvatica*, *Oxydendrum arboreum*, and *Quercus alba*. Shrubs common to this community were *Alnus serrulata*, *Cephalanthus occidentalis*, *Euonymus americana*, *Itea virginica*, *Photinia pyrifolia*, *Rhododendron alabamense*, *R. canescens*, and *Vaccinium fuscatum*. Important herbaceous taxa were *Bartonia virginica*, *Carex atlantica* subsp. *capillacea*, *C. intumescens*, *Osmunda cinnamomea*, *O. regalis*, *Phlox glaberrima*, *Platanthera clavellata*, and *Thelypteris novaboracensis*. An unidentified species of *Sphagnum*, a non-vascular plant, was one of the dominant ground cover species in this community.

9. Calcareous Seeps (CS).—This type of wetland community occurred along the western edge of Giles County on lower slopes of ravines and hollows along small streams, by waterfalls, or above wet bluffs. The seeps occurred over limestone, had a thin, gravelly, continuously waterlogged substrate, and were level to slightly sloping. This community was restricted to soils of the BMF association, specifically the Rockland type or Lynnville and Lobelville soil series. Most were found among forests but the seeps themselves usually lacked large trees. Shrubs commonly associated with the seeps were *Alnus serrulata* and *Lindera benzoin*. The woody vine *Decumaria barbara* was often associated with the seeps in the southwestern corner of the county. Herbaceous species found were *Cardamine pensylvanica, Carex leptalea, Chelone glabra, Cuscuta compacta, Dichanthelium dichotomum* var. *ramulosum, Dryopteris celsa, Equisetum hyemale* var. *affine, Glyceria striata, Impatiens capensis, Juncus coriaceus, Lobelia cardinalis, Oxypolis rigidior, Samolus valerandi* subsp. *parviflorus*, and *Solidago patula*.

10. Riparian Areas (RIP).—This community included those areas that were located along riparian zones in the HR and was found in conjunction with a variety of series belonging to the BMF soil association. Many species were found in this broad community type although few species were restricted to it. Trees included a few species of *Quercus* and *Acer* as well as *Carpinus caroliniana, Juglans cinerea* (rarely), *J. nigra, Liquidambar styraciflua, Morus rubra*, and *Platanus occidentalis*. Smaller trees and large shrubs were *Alnus serrulata, Arundinaria gigantea, Cornus amomum, Corylus americana, Crataegus calpodendron, Hamamelis virginiana, Lindera benzoin, Salix caroliniana*, and *S. sericea*. Many species of wildflowers inhabited this community, including most of the species listed for the wet meadow community above. Additional noteworthy herbaceous taxa were *Elymus macgregorii, Equisetum hyemale* var. *affine*, and *Mertensia virginica*.

OUTER CENTRAL BASIN

1. Rich Forests (BRF).—In the OCB, rich woodlands occurred most often on middle to upper, north and east facing slopes, along river bluffs, or in sheltered hollows associated with soils of the Bodine, Dellrose, and Culleoka series of the MFP, BMF, and BFD soil associations. Unfortunately, much of this forest community was heavily logged or grazed in the past. The dominant canopy species of the Basin's rich woodlands included *Acer nigrum, A. saccharum, Aesculus flava, Carya cordiformis, Carya ovata* var. *ovata, Fagus grandifolia, Fraxinus americana, Juglans nigra, Liriodendron tulipifera, Quercus muehlenbergii, Q. rubra, Prunus serotina, Tilia americana* var. *americana*, and *T. americana* var. *heterophylla*. A rare component of some of the forests was *Juglans cinerea*.

Smaller woody species that were sometimes present included *Aesculus pavia, Asimina triloba, Carpinus caroliniana, Gleditsea triacanthos, Morus rubra,* and *Ulmus rubra. Euonymus atropurpurea, E. americana, Hydrangea cinerea, Lindera benzoin,* and *Staphylea trifolia* were frequent shrubs. Notable herbaceous taxa were *Actaea pachypoda, Arisaema triphyllum* subsp. *triphyllum, Botrychium virginianum, Carex blanda, C. kraliana, Claytonia virginica, Cynoglossum virginianum, Delphinium tricorne, Impatiens pallida, Jeffersonia diphylla, Osmorhiza claytonii, Panax quinquefolius, Phacelia bipinnatifida, Podophyllum peltatum, Sanguinaria canadensis, Thalictrum thalictroides,* and *Trillium cuneatum.*

2. Dry Forests (BDF).—Dry forests occurred along ridge-tops and on middle to upper, south or west facing and occasionally east facing slopes. This community was most frequently associated with Rockland soils of the DBM and SAM soil associations. These forests, like the remainder of forested land in the county, have been heavily logged and grazed. They contained *Acer saccharum, Aesculus glabra, Carya glabra, C. ovata* var. *ovata, Celtis laevigata, Fraxinus americana, F. quadrangulata, Juniperus virginiana, Quercus alba, Q. muehlenbergii, Q. shumardii, Robinia pseudoacacia, Ulmus alata,* and *U. serotina.* Common small trees and shrubs were *Cornus florida, Crataegus crus-galli, C. intricata, Forestiera ligustrina, Frangula caroliniana, Ostrya virginiana, Prunus americana, Rhus aromatica, Rosa setigera, Symphoricarpos orbiculatus,* and *Viburnum rufidulum.* Frequent woody vines included *Bignonia capreolata, Cocculus carolinus,* and *Smilax bona-nox. Agrimonia pubescens, Anemone virginiana, Asplenium platyneuron, Camassia scilloides, Carex albicans* var. *albicans, C. cephalophora, Chasmanthium sessiliflorum, Elymus villosus, Heliotropium tuberosum, Lobelia inflata, Melica mutica, Nothoscordum bivalve, Scutellaria ovata,* and *Viola palmata* were the common herbaceous species.

3. Limestone Karst Woods (LKW).—This community type was restricted to a small area in the central portion of the county. These forests occurred on small rocky knobs over Ordovician-aged Lebanon or Ridley limestone where soil was sufficiently deep to support forests. Limestone karst woods were associated with Rockland soils of the SAM soil association. The rock outcrops in these communities were often massive (1–4 m tall) and covered several ha. Common tree species of the karst woods included *Celtis laevigata, Diospyros virginiana, Fraxinus americana, F. quadrangulata, Juniperus virginiana, Quercus muehlenbergii, Q. shumardii, Tilia heterophylla, Ulmus alata,* and *U. serotina.* In the subcanopy and shrub layer, *Callicarpa americana, Cercis canadensis, Forestiera ligustrina, Frangula caroliniensis, Rhamnus lanceolata, Rhus aromatica, Sideroxylon lycioides, Staphylea trifolia, Symphoricarpos orbiculatus,* and *Viburnum rufidulum* were found. Frequent herbs were *Cynoglossum virginianum, Delphinium tricorne, Erythronium albidum, Frasera caroliniensis, Nemophila aphylla, Osmorhiza claytonii, Packera obovata, Polygonatum biflorum, Trillium* *cuneatum*, *T. sessile*, and *Vicia minutiflora*. On the rock outcrops in the forest, species such as *Aquilegia canadensis*, *Arabis laevigata*, *Asplenium resiliens*, *A. rhizophyllum*, *A. ruta-muraria*, *Cystopteris bulbifera*, *Heuchera villosa*, *Pellaea atropurpurea*, *Perideridia americana*, *Pleopeltis polypodioides* subsp. *michauxiana*, *Polymnia canadensis*, *Ranunculus micranthus*, *Saxifraga virginiensis*, and *Woodsia obtusa* were present.

4. Cedar Barrens (CB).—This community type was represented by only a few degraded examples that were restricted to the slopes of small knobs over Ordovician limestone in central Giles County. Cedar barrens were found on Rockland soils of the SAM association. They occurred on open slopes surrounded by rocky limestone karst woods within close proximity to cedar glades. *Juniperus virginiana* was abundant near the margins of the barrens and as isolated individuals among them. Most of the woody species were the same as those listed for the glades with a few exceptions such as *Quercus stellata* and *Vaccinium arboreum*. They were dominated by a variety of perennial grasses and herbs. Noteworthy herbaceous taxa were *Allium canadense* var. *canadense*, *Andropogon virginicus*, *Aristida oligantha*, *Asclepias viridiflora*, *Carex cherokeensis*, *Chasmanthium sessiliflorum*, *Croton capitatus*, *Cuphea viscosissima*, *Daucus carota*, *Dichanthelium malacophyllum*, *Eupatorium altissimum*, *E. hyssopifolium*, *Euphorbia corollata*, *Festuca arundinacea*, *Geranium carolinianum*, *Lespedeza procumbens*, *Lobelia spicata*, *Onosmodium molle* subsp. *molle*, *Panicum flexile*, *Potentilla recta*, *P. simplex* (plants in this community may be referable to the variety *argyrisma* Fern.), *Rudbeckia triloba*, *Sabatia angularis*, *Silphium trifoliatum* var. *latifolium*, *Sporobolus clandestinus*, and *Tridens flavus* var. *flavus*.

5. Cedar Glades (CG).—The limestone glades of Giles County were distributed mostly along a 16 km stretch of a 32 km section of a fault line that runs diagonally from NW to SE across the southern half of the county. Along this line, they were mostly along the western edge and to the west of Richland Creek. Like most other glades of Middle Tennessee, these were associated with Ordovician-aged Lebanon and Ridley limestone of the Stones River Group (Miller et al. 1966). They occurred on level to slightly sloping sites with shallow gravelly soil or exposed limestone. Cedar glades were mostly associated with soils of the Rockland type, part of the SAM association. Such sites often were wet in the winter and spring and were dry during summer and autumn. The woody species commonly associated with glade margins included *Celtis laevigata*, *Carya ovata* var. *australis*, *Forestiera ligustrina*, *Frangula caroliniana*, *Juniperus virginiana*, *Quercus muehlenbergii*, *Rhus aromatica*, *Rosa carolina*, *R. setigera*, and *Sideroxylon lycioides*. In the open portion of the glades, common herbaceous species included *Amphiachyris dracunculoides*, *Astranthium integrifolium*, *Carex cherokeensis*, *Cyperus squarrosus*, *Dichanthelium malacophyllum*, *Erigeron strigosus* var. *calcicola*, *Geranium molle*, *Glandularia* *canadensis, Grindelia lanceolata, Heliotropium tenellum, Houstonia purpurea* var. *calycosa, Hypericum sphaerocarpum, Hypoxis hirsuta, Isanthus brachiatus, Leavenworthia torulosa, Malvastrum hispidum, Manfreda virginica, Minuartia patula, Nothoscordum bivalve, Oenothera triloba, Onosmodium molle* subsp. *molle, Oxalis priceae* subsp. *priceae, Opuntia humifusa, Packera anonyma, Panicum flexile, Penstemon tenuiflorus, Phemeranthus calcaricus, Ranunculus fascicularis, Rudbeckia triloba, Ruellia humilus, Salvia lyrata, Scutellaria parvula, Sedum pulchellum, Sisyrinchium albidum, Symphyotrichum priceae, Verbena simplex,* and *Viola egglestonii.*

6. Bluffs and Outcrops (BO).—Other than cedar glades and man-made road-cut bluffs, rock outcrops and bluffs were generally uncommon in the OCB. Some small bluffs were located near caves or springs. Larger bluffs were mostly confined to watercourses, particularly the larger streams such as the Elk River and lower section of Richland Creek. The soils of this community are part of the Rockland type of the DBM and SAM soil associations. Woody species associated with bluffs included *Fraxinus quadrangulata, Hypericum frondosum, Juniperus virginiana, Quercus muehlenbergii,* and *Philadelphus pubescens* var. *pubescens.* Common herbaceous taxa encountered were *Asplenium resiliens, Cheilanthes alabamensis, C. lanosa, Cystopteris bulbifera, Heuchera villosa, Matelea gonocarpos, Pellaea atropurpurea,* and *Sedum pulchellum.*

7. Marshes (BM).—Marshes were rare in the OCB, mostly restricted to the flood plains of large streams. This community was restricted to soils of the Lynnville and Newark series of the SAM soil association. All of those sampled were formed either by man or by beaver activity. Common trees included *Fraxinus pennsylvanica, Platanus occidentalis,* and *Salix nigra* with *Cephalanthus occidentalis* the common shrub. Emergent aquatics were represented by *Leersia oryzoides, Scirpus cyperinus,* and *Typha latifolia.* Floating and submerged aquatics included *Heteranthera reniformis, Lemna minor, Potomogeton diversifolius, P. foliosus, Spirodela polyrrhiza,* and rarely *Azolla caroliniana.*

8. Wet Meadows (BWM).—Wet meadows occurred mostly in the flood plains of larger streams and were associated with the Newark, Lynnville, and Armour series of the DBM and SAM soil associations. This community type was dominated by various herbaceous wetland species. Representative taxa of this community included *Alopecurus carolinianus, Ammannia coccinea, Asclepias incarnata* subsp. *incarnata, Bidens cernua, B. frondosa, Carex frankii, C. vulpinoidea, Cyperus strigosus, Echinochloa muricata, Gratiola neglecta, Iva annua, Juncus acuminatus, J. effusus, Leersia oryzoides, Lobelia siphilitica, Ludwigia glandulosa, L. palustris, Lycopus rubellus, L. virginicus, Panicum dichotomiflorum, Polygonum hydropiperoides, Rorippa sessiliflora, Rotala ramosior, Rumex altissimus,* and *Sagittaria australis.*

9. Limestone Wet Meadows (LWM).—This community type was found in low areas within or near limestone cedar glades or along roadside ditches through gladey areas where the ground was thoroughly saturated for lengthy periods in spring. The soils of this community are part of the Talbott and Roellen series of the SAM soil association. Some are also associated with the Rockland type. The major difference between the Limestone Wet Meadow Community and other wet meadows of the OCB is that the limestone wet meadows are thin-soiled depressions over limestone bedrock. Characteristic species of this plant community included *Carex festucacea*, *C. granularis*, *Cuphea viscosissima*, *Eleocharis bifida*, *E. obtusa*, *Hypericum sphaerocarpum*, *Isoetes butleri*, *Juncus filipendulus*, *Leavenworthia torulosa*, *Mecardonia acuminata*, *Nothoscordum bivalve*, *Scirpus atrovirens*, and *S. lineatus*.

10. Riparian Areas (BRIP).—This community type occurred along the flood plains of medium to large streams in association with soil of the Staser, Lynnville, and Armour series of the SAM soil association. Tree species common to this community were *Acer negundo*, *A. saccharinum*, *Celtis laevigata*, *Fraxinus pennsylvanica*, *Gleditsea triacanthos*, *Populus deltoides*, *Quercus shumardii*, *Salix nigra*, *Ulmus americana*, and rarely *Betula nigra*. *Asimina triloba*, *Cornus drummondii*, and *Staphylea trifolia* were occasional to common understory species. At several sites, *Arundinaria gigantea* was the dominant understory species. *Aristolochia tomentosa*, a high-climbing woody vine, was restricted to this community type. Herbaceous species found in this community included *Ageratina altissima*, *Alliaria petiolata*, *Chasmanthium latifolium*, *Elymus macgregorii*, *E. virginicus*, *Laportea canadensis*, *Microstegium vimineum*, *Phlox paniculata*, *Silphium perfoliatum*, and *Verbesina alternifolia*.

Streams and Riverine Communities

1. Small Streams and Springs (ST).—Small streams and springs were common throughout Giles County. Species commonly found in this community included *Lemna minor*, *Mentha × piperita*, *Rorippa nasturtium-aquaticum*, *Spirodela polyrrhiza*, and *Veronica anagallis-aquatica*.

2. Large Streams and Rivers (RIV).—The two largest streams in Giles County are the Elk River and Richland Creek. These two streams are approximately 25-75 m wide in most places and are characterized by having a slow to moderate current with more or less shallow waters. The substrate is mostly composed of large rocks, gravel, and silt. Aquatic species were generally rare and were confined to the shallow and often swift-flowing riffles or slow-moving backwater areas. Representative taxa found in this community included *Heteranthera dubia*, *Justicia americana*, *Podostenum ceratophyllum*, and *Potomogeton nodosus*.

3. Gravel Bars (GB).—Large gravel bars were frequent along the Elk River and Richland Creek. Large woody species generally were not abundant due to perioidic flooding. Woody species that were common in this community included saplings of *Betula nigra*, *Platanus occidentalis*, *Populus deltoides*, *Salix caroliniana*, and *S. nigra*. The common herbaceous taxa were *Cuscuta* sp., *Diodia* *virginiana*, *Dysphania ambrosioides*, *Eclipta prostrata*, *Justicia americana*, *Polygonum* spp., and *Samolus valerandi* subsp. *parviflorus*.

Disturbed Habitats

A number of anthropogenically modified or maintained communities were sampled during the survey. These areas were found in all three physiographic sections and often were surrounded by some of the more natural habitats discussed above. The most common of the disturbed sites sampled included farm ponds and man-made lakes **(FP)**; lawns, old homesites, cemeteries, etc. **(LAW)**; pastures and fields **(PAS)**; crop fields **(CRP)**; roadsides and railroad tracks **(RD)**; abandoned lots and bare ground **(DIS)**; and urban thickets **(UT)**. These sites appeared to receive higher amounts of disturbance than other communities and contained higher numbers of non-native and weedy species compared to more natural communities.

ANNOTATED CHECKLIST

Nomenclature follows the PLANTS database (USDA NRCS 2000) except for the genus *Crataegus*, which follows Wofford and Chester (2002); newly described species (Campbell 2000, Allison & Stevens 2001, Smith 2001); and those plants covered in published volumes of *Flora of North America* (1993, 1997, 2000, 2002a, 2002b, 2003), with the exception of *Carya glabra* and *C. ovalis* and infraspecific taxa within *Lindera*. *Juncus biflorus* and *J. marginatus* are maintained here as distinct species following Radford et al. (1968). The arrangement of the checklist follows that of Wofford and Kral (1993), whereby the taxa are divided into three major groups: PTERIDOPHYTES, GYMNOSPERMS, and ANGIOSPERMS (MONOCOTS, DICOTS). Families and genera are arranged alphabetically within the three major divisions.

An asterisk (*) precedes the scientific name of each taxon not native to Tennesseee (sensu Wofford & Kral 1993). Two asterisks (**) signify taxa that are native to portions of Tennessee but not to Giles County. Entries denoted by the symbol "@" represent recently described taxa (for recently described taxa, a literature citation is provided in brackets following all other information). A cross (†) indicates taxa collected from Giles County prior to this study (mostly based on Chester et al. 1993, 1997); those without a cross represent county records. Taxa preceded by "Δ" were observed but not collected. Rare taxa are listed in **bold** type and are enumerated in Table 2.

Following the scientific name and authority, an abbreviation is listed for the relative abundance of each taxon within the county. An abbreviation for the physiographic area(s) where the taxon was collected or observed and an abbreviation for the habitat are listed next. The abbreviations used in the checklist to represent relative abundance, physiographic province, and habitat types are listed in Table 3.

TABLE 3. Abbreviations used in the checklist of vascular plants known from Giles County, Tennessee.

Symbols Used in the Checklist

***** = Non-native species
@ = Recently described taxon
Δ = Taxon observed but not collected

Relative Abundance

V = Very rare
R = Rare
S = Scarce
I = Infrequent
O = Occasional
F = Frequent
C = Common
X = Extirpated

Physiographic Area

OCB = Central Basin
HR = Highland Rim (both EHR & WHR)
EHR = Eastern Highland Rim
WHR = Western Highland Rim

Plant Communities

AS = Acidic Seep
BDF = Central Basin Dry Forest
BRF = Central Basin Rich Forest
BM = Central Basin Marsh
BO = Central Basin Bluff/Outcrop
BRIP = Central Basin Riparian Area
BWM = Central Basin Wet Meadow
CB = Cedar Barren
CG = Cedar Glade
CRP = Crop Field
CS = Calcareous Seep
DIS = Disturbed Area
FW = Flatwood
FP = Farm Pond/Lake
GB = Riverine Gravel Bar
LAW = Old Homesite/Lawn
LKW = Limestone Karst Wood
LWM = Limestone Wet Meadow
OH = Oak-Hickory Forest
PAS = Pasture/Field
RB = Highland Rim Barren
RD = Roadside/Railroad
RIV = River/Large Stream
RM = Highland Rim Marsh
RO = Highland Rim Bluff/Outcrop
RIP = Highland Rim Riparian Area
RF = Highland Rim Rich Forest
WM = Highland Rim Wet Meadow
ST = Small Stream/Spring
UT = Urban Thicket

The classification used to categorize the relative abundance of each taxon follows that of Murrell and Wofford (1987) and is as follows: very rare, found in a single locale with few individuals; rare, one or two localities, generally small populations; scarce, several localities, or scattered small populations; infrequent, scattered localities throughout; occasional, well distributed but not abundant anywhere; frequent, generally encountered; and common, characteristic and dominant. Taxa not observed over the last 20 years are listed as extirpated.

When taxa were found in all three physiographic areas (Outer Central Basin, Eastern Highland Rim, Western Highland Rim) the word ALL is listed. For taxa collected from both the Eastern and Western Highland Rims the designation HR is given, otherwise each physiographic area is listed separately. Additional habitat information is listed where necessary. For each entry, the physiographic and habitat designations are listed in their order of abundance, starting with the most abundant.

After the information concerning relative abundance, physiographic province, and habitat, the author's collection number is given in parenthesis. For specimens collected by the author housed at TENN only the author's collection number is given (e.g. 01077); however, for specimens housed in herbaria other than TENN, both the author's collection number and herbarium acronym where the specimen is deposited are given (e.g. 01349, VDB). For taxa listed in the checklist that were collected by others, the collector's name, collection number, and the herbarium acronym where the specimen is housed are included (e.g. R. Kral 39577, VDB).

PTERIDOPHYTES

ASPLENIACEAE

†*Asplenium platyneuron* (L.) B. S. P.—F; ALL; BDF, BRF, FW, LKW, OH, RF; (02686).

†*Asplenium resiliens* Kunze—O; OCB, WHR; LKW, BO, RO; (00339).

†*Asplenium rhizophyllum* L.—O; ALL; BO, RO, LKW, RF, BRF; (02825).

†*Asplenium ruta-muraria* L.—R; OCB; LKW, BO; (04452).

AZOLLACEAE

Azolla caroliniana Willd.—R; OCB; BM; (03521).

BLECHNACEAE

Woodwardia areolata (L.) T. Moore—R; HR; FW, AS; (00031).

DENNSTAEDTIACEAE

Pteridium aquilinum (L.) Kuhn var. *latiusculum* (Desv.) Underwood ex Heller—O; HR; RB, OH; (02142).

DRYOPTERIDACEAE

†*Athyrium filix-femina* (L.) Mertens var. *asplenioides* (Michx.) Farw.—O; HR; RF; (00914).

†*Cystopteris bulbifera* (L.) Bernh.—O; ALL; LKW, BO, RO; (06784).

†*Cystopteris protrusa* (Weatherby) Blasdell—I; OCB, WHR; BRF, RF; (02190).

†*Cystopteris tennesseensis* Shaver—S; WHR, OCB; RO, BO; (J. Shaver 10220, TENN).

Δ *Deparia acrostichoides* (Swartz) M. Kato—V; WHR; RF.

Diplazium pycnocarpon (Spreng.) M. Broun—I; WHR, OCB; RF, BRF; (01537).

Dryopteris celsa (W. Palmer) Knowlt., Palmer, & Pollard—V; WHR; CS, WM; (02127).

Dryopteris marginalis (L.) Gray—V; WHR; RF; (00984).

†*Onoclea sensibilis* L.—S; HR; CS, FW; (03763).

†*Polystichum acrostichoides* (Michx.) Schott—C; ALL; RF, BRF, FW; (00970).

†*Woodsia obtusa* (Spreng.) Torr. subsp. *obtusa*—O; OCB, WHR; LKW, BDF, CG, BO, RO; (00666).

EQUISETACEAE

Equisetum hyemale L. var. *affine* (Engelm.) Calder & R. L. Tayor—R; WHR; CS, RIP; (00129).

ISOETACEAE

Isoetes butleri Engelm.—V; OCB; LWM; (03043).

LYCOPODIACEAE

Diphasiastrum digitatum (Dillenius ex A. Braun) Holub—R; WHR; OH, RD; (01607).

OPHIOGLOSSACEAE

Botrychium biternatum (Sav.) Underwood—S; HR; FW, RB; (05030).

Botrychium dissectum Spreng.—R; WHR; RF; (06783).

†*Botrychium virginianum* (L.) Sw.—F; ALL; RF, BRF, LKW; (01936).

†*Ophioglossum engelmannii* Prantl—R; OCB; CG; (01954).

Ophioglossum vulgatum L.—R; EHR, OCB; FW, LKW; (00605).

OSMUNDACEAE

†*Osmunda cinnamomea* L.—I; HR; RM, FW, AS, ST; (01905).

†*Osmunda regalis* L. var. *spectabilis* (Willd.) Gray—I; HR; RM, FW, AS, ST; (00588).

POLYPODIACEAE

†*Pleopeltis polypodioides* (L.) Andrews & Windham subsp. *michauxiana* (Weatherby) Andrews & Windham—O; OCB, WHR; LKW, BDF, BO, RO, on trees and rocks; (01783).

PTERIDACEAE

†*Adiantum pedatum* L.—I; ALL; RF, BRF; (02187).

†*Cheilanthes alabamensis* (Buckl.) Kunze—S; OCB; BO, LKW; (00652).

Cheilanthes lanosa (Michx.) D. C. Eat.—R; OCB, WHR; BO, RO; (02757).

†*Pellaea atropurpurea* (L.) Link—O; OCB, WHR; LKW, BO, RO, CG; (00663).

SELAGINELLACEAE

†*Selaginella apoda* (L.) Spring—V; WHR; RM; (A. J. Sharp, E. Clebsch, & A. Clebsch 9814, TENN).

THELYPTERIDACEAE

†*Phegopteris hexagonaptera* (Michx.) Fée—I; ALL; RF, BRF; (04931).

†*Thelypteris noveboracensis* (L.) Nieuwl.—S; HR; AS, FW; (00916).

GYMNOSPERMS

CUPRESSACEAE

Juniperus virginiana L. var. *virginiana*—F; ALL; CG, CB, LKW, BDF, RDF, RB, RD, PAS, BO, RO; (01616).

PINACEAE

***Pinus echinata* P. Mill.—R; WHR, OCB (probably planted); OH, RB, RD, few if any native stands; (03150).

***Pinus strobus* L.—V; WHR, tree plantation with seedlings; (02140).

Pinus taeda L.—S; ALL; FW, OH, RB, native only in extreme southern part of county; (00367).

***Pinus virginiana* P. Mill.—R; WHR; RD, no native stands observed; (01631).

ANGIOSPERMS: MONOCOTS

ACORACEAE

**Acorus calamus* L.—R; WHR, OCB; WM, BWM; (03772).

AGAVACEAE

Manfreda virginica (L.) Salisb. ex Rose—S; OCB; CG, CB, BO; (00821).

***Yucca filamentosa* L.—R; OCB; RD, LAW, doubtfully native to county; (04954).

ALISMATACEAE

Alisma subcordatum Raf.—S; HR; WM, FW; (00831).

Sagittaria australis (J. G. Smith) Small—R; WHR, OCB; AS, BWM; (05426).

Sagittaria montevidensis Chamisso & Schlechtendal subsp. *calycina* (Engelm.) Bogin—S; WHR; FP, WM; (01333).

ARACEAE

Arisaema dracontium (L.) Schott—R; OCB; LKW; (02115).

Arisaema triphyllum (L.) Schott subsp. *pusillum* (Peck) Huttleston—R; EHR; FW; (00553).

†*Arisaema triphyllum* (L.) Schott subsp. *triphyllum*—F; ALL; RF, BRF, LKW; (01743).

COMMELINACEAE

**Commelina communis* L.—O; ALL; BRIP, BWM, CRP, GB, RD, RIP; (03745).

**Commelina diffusa* Burm. f.—R; OCB; LWM, RD; (02715).

Commelina erecta L. var. *erecta*—R; OCB; CG, BO; (06427).

†*Commelina virginica* L.—S; ALL; WM, BWM; (03864).

†*Tradescantia subaspera* Ker Gawler—S; WHR, OCB; RF, BRF, BRIP, BO; (00980).

Tradescantia virginiana L.—S; WHR; RF, OH; (01920).

CYPERACEAE

Bulbostylis capillaris (L.) C. B. Clarke ex J. D. Hooker—V; WHR; RB, wet ruts; (05289).

†*Carex albicans* Willd. ex Spreng. var. *albicans*—O; ALL; RF, BRF, LKW, OH; (04399).

Carex albolutescens Schwein.—R; WHR; RM, WM; (03276).

Carex albursina E. Sheldon—R; HR; RF; (04401).

†*Carex amphibola* Steud.—I; OCB, WHR; BRF, RF; (05914).

Carex atlantica Bailey subsp. *capillacea* (Bailey) Rezn.—R; WHR; AS; (00424 VDB).

Carex aureolensis Steudel.—V; OCB; BM; (03522).

Carex baileyi Britt.—V; WHR; RM; (00036 VDB).

Carex basiantha Steudel—R; OCB; LKW; (05899).

Carex blanda Dewey—S; OCB; BDF, BRF, PAS, CG; (04446).

Carex cephalophora Willd. ex Willd.—S; WHR; RF; (00614).

Carex cherokeensis Schwein.—S; OCB; CG, CB, LKW; (02039).

Carex complanata Torr. & Hook.—R; WHR; RB; (04905).

Carex crinita Lam. var. *brevicrinis* Fern.—R; WHR, RM; (02353).

Carex cumberlandensis Naczi, Kral, & Bryson.—I; WHR; RF; (05910).

Carex debilis Michx. var. *debilis*—S; HR; AS, FW; (00428 VDB).

Carex digitalis Willd.—R; WHR; AS; (02265).

Carex festucacea Schkuhr ex Willd.—I; OCB, WHR, BWM, LWM, RM; (03243).

Carex flaccosperma Dewey—R; EHR; FW; (02053).

†*Carex frankii* Kunth—O; ALL; BWM, RM, BM, RM; (00668).

†*Carex gigantea* Rudge—V; EHR; FW; (05019).

Carex granularis Muhl. ex Willd.—R; OCB; LWM; (03249).

†*Carex intumescens* Rudge—S; HR; AS, WM, FW; (00967).

Carex jamesii Schweinitz—R; OCB; BRF; (05834).

Carex joorii Bailey—S; HR; FW, WM, RM; (01322 VDB).

Carex kraliana Naczi & Bryson—R; OCB; BDF; (00654).

†*Carex laevivaginata* (Kukenth.) Mackenzie—R; WHR; CS; (02086).

Carex leavenworthii Dewey—S; OCB; BDF; (00649).

Carex leptalea Wahlenb.—R; WHR; CS; (02261).

Carex lupuliformis Sartwell ex Dewey—R; WHR; RM; (00786).

Carex lupulina Willd.—S; HR; WM, FW; (04206).

Carex lurida Wahlenb.—S; HR; AS, FW; (00953).

Carex muehlenbergii Schkuhr ex Willd. var. *enervis* Boott—R; OCB; PAS, CG; (05896).

Carex normalis Mackenzie—R; EHR; WM; (02346).

Carex picta Steud.—I; WHR; OH; (01613).

Carex planispicata Naczi—R; WHR; RF; (05972).

Carex prasina Wahlenb.—R; WHR; AS, RF; (00614).

Carex radiata (Wahlenb.) Small.—R; WHR; RF; (05971).

Carex rosea Schkuhr ex Willd.—I; WHR, OCB; RF, BRF, AS; (03680).

†*Carex scoparia* Schkuhr ex Willd.—X; WHR, OCB; WM, BWM; (K. Rogers 34914, TENN).

†*Carex stipata* Muhl. ex Willd.—R; WHR, OCB; WM, BWM; (K. Rogers 34913, TENN).

Carex stricta Lam.—R; WHR; AS; (02260).

Carex styloflexa Buckl.—R; WHR; AS; (00427 VDB).

Carex swanii (Fern.) Mackenzie—V; WHR; WM; (03278).

Carex texensis (Torr. ex L.H. Bailey) L.H. Bailey—R; EHR; RF, OH; (04400).

Carex tribuloides Wahlenb.—V; WHR; RF; (04913).

Carex virescens Muhl. ex Willd.—V; WHR; RF, OH?; (H. R. DeSelm s.n., TENN).

†*Carex vulpinoidea* Michx.—I; OCB, WHR; BWM, WM, LWM; (03242).

Cyperus acuminatus Torr. & Hook.—V; WHR; DIS; (06790).

†*Cyperus echinatus* (L.) Wood—I; OCB, WHR; PAS, BWM, LWM, WM, RB; (01257).

Cyperus flavescens L.—R; WHR; RD, wet ditch; (02836).

Cyperus lancastriensis Porter ex Gray—S; OCB; PAS; (01199).

Cyperus odoratus L.—S; OCB; PAS; (01205)

†*Cyperus pseudovegetus* Steud.—R; EHR; WM; (05028).

Cyperus refractus Engelm. ex Boeckl.—R; OCB; LWM; (03644).

**Cyperus rotundus* L.—V; OCB; CG; (04100).

Cyperus squarrosus L.—S; OCB; CG, LWM; (04105).

†*Cyperus strigosus* L.—O; ALL; WM, BWM; (04177).

@†*Eleocharis bifida* S. G. Smith—R; OCB; CG, CB, LWM; (03267); [Smith 2001].

Eleocharis engelmannii Steud.—R; EHR; WM; (02352).

Eleocharis microcarpa Torr. var. *filiculmis* Torr.—V; EHR; FW; (05390).

Eleocharis obtusa (Willd.) J. A. Schultes—O; ALL; WM, BWM, LWM; RM, BM; (06288).

Eleocharis cf. *tenuis* (Willd.) Schultes—V; EHR; WM; (06297).

Fimbristylis autumnalis (L.) Roemer & Schultes—R; WHR; WM, FP; (01331).

Isolepis carinata Hook. & Arn. ex Torr.—V; EHR; WM; (02347).

†*Rhynchospora capitellata* (Michx.) Vahl—S; HR; WM, RM; (06306).

Rhynchospora corniculata (Lam.) Gray—R; HR; WM; (02780).

Rhynchospora glomerata (L.) Vahl—S; HR; WM, RM, FW; (03780).

†*Rhynchospora recognita* (Gale) Kral—X; OCB; BO; (A. J. Sharp, S. Fairchild, & E. Clebsch 9892, TENN).

†*Scirpus atrovirens* Willd.—I; ALL; WM, BWM, LWM; (00998).

†*Scirpus cyperinus* (L.) Kunth—S; WHR; RM; (01323).

Scirpus pendulus Muhl.—V; OCB; LWM; (04903).

Scleria pauciflora Muhl. ex Willd. var. *pauciflora*—V; WHR; RB; (05288).

Scleria oligantha Michx.—S; WHR; OH, RO; (05154).

Scleria triglomerata Michx.—S; HR; FW, OH; (05026).

DIOSCOREACEAE

**Dioscorea polystachya* Turczaninow—O; OCB, WHR; BRIP, RIP; (05311).

Dioscorea villosa L.—O; ALL; BRF, RF; (00608).

IRIDACEAE

**Belamcanda chinensis* (L.) DC.—S; OCB, WHR; CG, PAS, LAW; (01474).

Iris cristata Sol. ex Ait.—I; HR; RF; (01849).

**Iris germanica* L.—R; EHR; RD; (04376).

†*Sisyrinchium albidum* Raf.—I; OCB, WHR; CG, CB, LKW, BDF, BDF, BO, RO; (01952).

†*Sisyrinchium angustifolium* Mill.—I; ALL; BWM, WM, PAS, BRIP, RIP; (02200).

JUNCACEAE

†*Juncus acuminatus* Michx.—S; EHR, WHR; FW, WM, BM, BWM; (01012 VDB).

Juncus biflorus Ell.—R; EHR; WM; (06296).

†*Juncus coriaceus* Mackenzie—I; ALL; WM, BWM, CS, AS; (05164).

Juncus debilis Gray—R; EHR; WM; (02339).

†*Juncus diffusissimus* Buckl.—R; WHR, OCB; RM, BWM; (05291).

Juncus effusus L.—I; ALL; RM, WM, BM, BWM; (02844).

Juncus filipendulus Buckl.—R; OCB; LWM, CG; (03246).

Juncus interior Wieg.—R; WHR; RB, DIS; (05304).

Juncus marginatus Rostk.—R; EHR; WM; (02356).

Juncus repens Michx.—R; WHR; RM; (01324).

Juncus scirpoides Lam.—R; EHR; WM; (02777).

Juncus secundus Beauv. ex Poir.—R; WHR, OCB; RB, CG; (05287).

Juncus tenuis Willd.—O; ALL; PAS, BWM, WM, BM; (03862).

Juncus torreyi Coville—V; OCB; BWM; (03690).

Luzula acuminata Raf. var. *carolinae* (S. Wats.) Fern.—R; WHR; RF; (02139).

†*Luzula echinata* (Small) Hermann—I; ALL; RF, BRF; (02136).

LEMNACEAE

Lemna minor L.—O; ALL; FP, ST; (01473).

Spirodela polyrrhiza (L.) Schleid.—S; WHR; FP; (03682).

LILIACEAE

Allium canadense L. var. *canadense*—I; ALL; RB, PAS, CB, CG, RD; (02321).

Allium cernuum Roth—V; OCB; BO; (00835).

*†*Allium sativum* L.—X; OCB; RD; (A. J. Sharp, A. Clebsch, E. Clebsch 40, TENN).

†***Allium tricoccum*** Sol. var. ***burdickii*** Hanes—R; WHR, OCB; RF, BRF; (00406).

**Allium vineale* L.—I; OCB, WHR; RD, PAS, LAW; (02317).

Amianthium muscitoxicum (Walt.) Gray—R; WHR; RF, OH; (02117).

**Asparagus officinalis* L.—S; OCB, WHR; RD, PAS; (04919).

Camassia scilloides (Raf.) Cory—S; OCB; BRF, BDF; (01793).

Chamaelirium luteum (L.) Gray—R; WHR; OH; (03297).

Erythronium albidum Nutt.—S; OCB; BRF, LKW; (01662).

Erythronium americanum Ker-Gawl subsp. *americanum*—R; WHR; RF; (05908).

Erythronium americanum Ker-Gawl subsp. *harperi* (W. Wolf) Parks and Hardin—O; ALL; RF, BRF; (04398).

**Hemerocallis fulva* (L.) L.—I; ALL; RD, WM, ST, LAW; (02357).

**Hyacinthoides nonscripta* (L.) Chouard—V; WHR; RD; (01740).

†*Hymenocallis occidentalis* (J. Le Conte) Kunth—I; WHR; WM, RF; (01334).

†*Hypoxis hirsuta* (L.) Coville—S; OCB, WHR; CG, OH; (01950).

Δ ***Lilium michiganense*** Farw.—V; WHR; RF.

Maianthemum racemosum (L.) Link subsp. *racemosum*—O; ALL; RF, BRF, LKW; (02029).

**Muscari neglectum* Guss. ex Ten.—I; OCB; CG, PAS; (00338).

**Narcissus poeticus* L.—R; WHR; LAW; (00421).

*Δ *Narcissus pseudonarcissus* L.—O; ALL; LAW, RD, PAS.

†*Nothoscordum bivalve* (L.) Britt.—S; OCB; CG, CB, LWM, LKW, BO; (01653).

**Ornithogalum umbellatum* L.—S; OCB; LAW, PAS, CG; (01942).

Polygonatum biflorum (Walt.) Ell.—O; ALL; RF, BRF, LKW; (01916).

Prosartes lanuginosa (Michx.) D. Don—V; WHR; RF; (02034).

†***Schoenolirion croceum*** (Michx.) Wood.—X; OCB; CG, LWM; (E. Quarterman 5218, specimen formerly at VDB, now apparently lost).

†*Trillium cuneatum* Raf.—C; ALL; RF, BRF, LKW; (01934).

Trillium flexipes Raf.—R; WHR; RF; (01733).

Trillium sessile L.—I; OCB; LKW, BDF, BRF; (01916).

†*Trillium stamineum* Harbison—I; ALL; RF, BRF; (01805).

Uvularia grandiflora Sm.—I; WHR; RF; (01666).

Uvularia perfoliata L.—R; WHR; RF; (H. R. DeSelm s.n., TENN).

Uvularia sessilifolia L.—R; EHR; FW (06293).

ORCHIDACEAE

Cypripedium parviflorum Salisb. var. *pubescens* (Willd.) Knight—V; WHR; RF; (02030).

Goodyera pubescens Willd. R. Br. ex Ait. f.—R; WHR; OH, RF; (01485).

Isotria verticillata Raf.—V; EHR; FW; (02800).

Platanthera ciliaris (L.) Lindl.—V; WHR; RM and associated wet woods; (02745).

Platanthera clavellata (Michx.) Luer—R; WHR; AS, RM; (00957).

Platanthera flava (L.) Lindl. var. *flava*—V; EHR; FW; (06283).

Platanthera peramoena (Gray) Gray—V; OCB; BWM; (03868).

Spiranthes cernua (L.) Rich.—R; WHR; PAS, RD; (06880).

Spiranthes lacera (Raf.) Raf. var. *gracilis* (Bigelow) Luer—S; OCB, WHR; CB, RB; (02880).

Spiranthes vernalis Engelm. & Gray—V; EHR; WM; (04943).

Tipularia discolor (Pursh) Nutt.—I; ALL; RF, BRF; (02801).

POACEAE

**Agrostis gigantea* Roth—R; OCB; WM, (06276).

Agrostis hyemalis (Walt.) B. S. P.—R; EHR; WM; (02348).

Agrostis perennens (Walt.) Tuckerman—I; ALL; OH, FW, BDF; (03669).

Alopecurus carolinianus Walt.—R; OCB; BWM; (02206).

Andropogon gerardii Vitman—S; WHR; RB, RO; (03684).

Andropogon gyrans Ashe—R; WHR; RB, RM; (05677).

Andropogon ternarius Michx.—R; WHR; RB; (05676).

Andropogon virginicus L.—C; ALL; PAS, RB, RD; (06884).

Aristida longespica Poir.—R; WHR; DIS; (06799).

Aristida oligantha Michx.—R; OCB, WHR; CB, RB; (02890).

**Arthraxon hispidus* (Thunb.) Makino—R; EHR; WM, FW; (04195).

†*Arundinaria gigantea* (Walt.) Chapm.—O; ALL; BRIP, RIP, BRF, RF, FW; (00250).

Brachyelytrum erectum (Schreb. ex Spreng.) Beauv.—I; WHR; RF; (02848).

**Bromus commutatus* Schrad.—I; OCB, WHR; PAS, RD; (02207).

Bromus pubescens Muhl. ex Willd.—I; WHR; RF; (06413).

**Bromus racemosus* L.—V; OCB, EHR; (01943).

**Bromus sterilis* L.—V; OCB; CG, PAS; (02044).

**Bromus tectorum* L.—I; OCB; RD, PAS, CG; (04457).

Chasmanthium latifolium (Michx.) Yates—I; WHR, OCB; RF, RIP, BRIP, LKW; (01482).

Chasmanthium laxum (L.) Yates—R; EHR; FW, WM; (02776).

Chasmanthium sessiliflorum (Poir.) Yates—I; OCB, WHR; LKW, OH; (00787).

Cinna arundinacea L.—S; WHR; RF; (01532).

**Cynodon dactylon* (L.) Pers.—O; ALL; PAS, LAW, RD, DIS; (05397).

**Dactylis glomerata* L.—O; ALL; PAS, RD; (02096).

Danthonia spicata (L.) Beauv. ex Roemer & J. A. Schultes—I; HR; OH, (02257).

Dichanthelium acuminatum (Sw.) Gould & C. A. Clark var. *acuminatum*—R; OCB; BWM; (02210).

Dichanthelium acuminatum (Sw.) Gould & C. A. Clark var. *lindheimeri* (Nash) Beetle—S; WHR; RB; (03663).

Dichanthelium boscii (Poir.) Gould & C. A. Clark—I; HR; OH, RF; (03759).

†*Dichanthelium commutatum* (J. A. Schultes) Gould—I; ALL; BRF, RF; (H. R. DeSelm 1654, TENN).

Dichanthelium depauperatum (Muhl.) Gould—S; WHR; RB, OH; (02318).

Dichanthelium dichotomum (L.) Gould—O; HR; OH, FW; (05276).

Dichanthelium laxiflorum (Lam.) Gould—O; ALL; BDF, LKW, BRF, RF; (00762 VDB).

Dichanthelium malacophyllum (Nash) Gould—I; OCB; CG, CB, BDF; (00646 VDB).

Dichanthelium microcarpon (Muhl. ex Ell.) Mohlenbrock—I; ALL; WM, RM, BWM, FW; (00788 VDB).

Dichanthelium sphaerocarpon (Ell.) Gould var. *isophyllum* (Scribn.) Gould & C. A. Clark—S; WHR; RB; (03654).

Dichanthelium scoparium (Lam.) Gould—S; HR; WM, RM, FW; (04183).

*_Digitaria ciliaris_ (Retz.) Koel.—I; OCB, WHR; DIS, CRP, LAW, RD, GB, CG; (02729 VDB).

*_Digitaria sanguinalis_ (L.) Scop.—I; OCB; PAS, RD; (05264).

*_Digitaria violascens_ Link—V; WHR; DIS; (06798).

*_Echinochloa colona_ (L.) Link—I; OCB; BWM, LWM; (04081).

*_Echinochloa crusgalli_ (L.) Beauv.—S; WHR; GB, DIS; (02730).

†_Echinochloa muricata_ (Beauv.) Fern. var. _muricata_—I; ALL; WM, BWM, BM, RM; (04077).

*_Eleusine indica_ (L.) Gaertn.—I; OCB; DIS, CRP, RD; (04176).

†_Elymus glabriflorus_ (Vasey ex L.H. Dewey) Scribn. & Ball—R; WHR; RD; (05313).

Elymus hystrix L.—O; OCB, WHR; BDF, BRF, BRIP, LKW, RF, RIP; (00947).

@_Elymus macgregorii_ R. Brooks & J.J.N. Campbell—I; WHR, OCB; RIP, BRIP; (02320); [Campbell 2000].

†_Elymus riparius_ Wieg.—I; WHR, OCB; RF, BRIP; (00946).

†_Elymus villosus_ Muhl. ex Willd.—O; OCB, WHR; BDF, BO, LKW, RO; (00651).

Elymus virginicus L.—I; WHR, OCB; RIP, BRIP, RF, RD, PAS; (05298).

*_Eragrostis cilianensis_ (All.) Vign ex Janchen—S; OCB; DIS, CRP, RD; (04177).

*_Eragrostis curvula_ (Schrad.) Nees—S; OCB; RD; (06271).

Eragrostis frankii C.A. Mey ex Steud.—R; OCB; CG; (04104).

Eragrostis pectinacea (Michx.) Nees ex Steud.—I; OCB; PAS, CRP, RD; (05267).

Eragrostis spectabilis (Pursh.) Steud.—S; HR; RB; (04188).

*_Festuca arundinacea_ Schreb.—C; ALL; PAS, DIS, LAW, RD; (02211).

†_Festuca subverticillata_ (Pers.) Alexeev.—I; WHR; RF; (02185).

Glyceria striata (Lam.) A.S. Hitchcock—I; WHR; CS, AS, ST, WM; (02024).

*_Hordeum pusillum_ Nutt.—I; ALL; DIS, RD, PAS; (02143).

*†_Hordeum vulgare_ L.—V; OCB; RD; (R. Kral 64891, VDB).

Leersia oryzoides (L.) Sw.—I; ALL; BM, BWM, RM, WM, FW; (03527).

†_Leersia virginica_ Willd.—O; ALL; BRIP, RIP, GB, ST; BWM, WM; (02978).

*_Lolium perenne_ L. subsp. _multiflorum_ (Lam.) Husnot.—I; ALL; DIS, RD, PAS; (02197).

Melica mutica Walt.—O; ALL; BRF, BDF, RF, BO, RO; (00610).

*_Microstegium vimineum_ (Trin.) A. Camus—F; ALL; RF, BRF, BDF, DIS, RD, ST, BM, BWM, FW; (05468).

*_Miscanthus sinensis_ Anderss.—R; WHR; PAS; (06327).

Muhlenbergia schreberi J. F. Gmel.—I; WHR, OCB; OH, RO, CG, PAS; (05646).

Muhlenbergia sobolifera (Muhl.) Trin.—R; WHR; RF; (02847).

Muhlenbergia sylvatica Torr. ex Gray—S; WHR; RF; (05148).

Panicum anceps Michx.—O; ALL; RB, PAS; (03655).

Δ _Panicum capillare_ L.—S; OCB; CRP.

Panicum dichotomiflorum Michx.—I; ALL; BWM, WM, BM, RM, GB, DIS; (04186).

Panicum flexile (Gattinger) Scribn.—I; OCB; CG, CB, BO, PAS; (04101).

Panicum philadelphicum Bernh. subsp. _gattingeri_ (Nash) Freckmann & Lelong—I; OCB; CG, CB, BO, RD; (05652).

Panicum rigidulum Bosc. ex Nees var. _pubescens_ (Vasey) Lelong—V; WHR; RM; (02748).

Panicum rigidulum Bosc. ex Nees var. _rigidulum_—I; OCB, WHR; BWM, WM, (03856).

Panicum verrucosum Muhl.—R; HR; WM; (04073).

Panicum virgatum L.—R; OCB; RD, DIS; (06272).

*_Paspalum dilatatum_ Poir.—O; ALL; DIS, PAS, LAW; (04174).

†_Paspalum distichum_ L.—X; OCB; river bottom; (L.S. Treanor Jr. s.n., TENN).

Paspalum fluitans (Ell.) Kunth.—V; WHR; WM, RM; (04086).

Paspalum laeve Michx. var. _pilosum_ Scribn.—R; EHR, OCB; WM, LWM; (05021).

*_Paspalum urvillei_ Steud.—V; WHR; RD; (06774).

*_Phleum pratense_ L.—S; OCB; PAS, RD; (05411).

*_Poa annua_ L.—O; ALL; DIS, PAS, LAW, RD; (04403).

Poa autumnalis Muhl. ex Ell.—I; HR; RF; (02085 VDB).

*_Poa compressa_ L.—R; OCB; PAS; (04953).

*_Poa pratensis_ L.—O; ALL; DIS, PAS, LAW, RD; (04450).

Poa sylvestris Gray—I; HR; RF, RO; (01930).

*_Poa trivialis_ L.—V; WHR; CS; (02095 VDB).

Saccharum alopecuroidum (L.) Nutt.—O; ALL; PAS, RB, RD; (04109).

Saccharum baldwinii Spreng.—V; WHR; RM; (01326).

Saccharum giganteum (Walt.) Pers.—R; EHR; WM, RB; (04197).

Schizachyrium scoparium (Michx.) Nash var. *divergens* (Hack) Gould—R; WHR; RB; (02864).

Schizachyrium scoparium (Michx.) Nash var. *scoparium*—I; HR; RB, OH, RO; (03649).

*†*Secale cereale* L.—S; OCB; CG, RD; (02209).

**Setaria faberi* Herrm.—O; OCB; CRP, DIS, PAS, RD; (05413).

Setaria parviflora (Poir.) Kerguelen—O; ALL; BWM, WM, PAS, RD, RB; (02733 VDB).

*†*Setaria viridis* (L.) Beauv. var. *major* (Gaudin) Pospichal—R; OCB; CRP; (H.R. DeSelm 1652, TENN).

**Setaria viridis* (L.) Beauv. var. *viridis*—I; OCB; CRP, DIS, PAS, RD; (05266).

Sorghastrum nutans (L.) Nash—R; WHR; RB; (02916).

**Sorghum halapense* (L.) Pers.—F; ALL; DIS, PAS, CRP, RD; (00776).

Sphenopholis intermedia (Rydb.) Rydb.—R; EHR; FW; (02101).

Sphenopholis nitida (Biehler) Scribn.—I; ALL; BRF, LKW, RF; (03251).

Sporobolus clandestinus (Biehler) A. S. Hitchc.—S; OCB; CG, CB; (05649).

Sporobolus compositus (Poir.) Merr. var. *compositus*—R; OCB; CG; (05487).

Sporobolus vaginiflorus (Torr. ex Gray) Wood—I; OCB; CG, CB; (04103).

Tridens flavus (L.) A. S. Hitchc. var. *flavus*—O; ALL; RB, PAS, LWM, RD; (04169).

**Vulpia myuros* (L.) K. C. Gmel.—R; WHR; RB; (4920).

Vulpia octoflora (Walt.) Rydb. var. *glauca* (Nutt.) Fern.—R; WHR; RB; (00587).

PONTEDERIACEAE

*Δ *Eichhornia crassipes* (Mart.) Solms—R; OCB, WHR; FP, observed in two separate ponds over the course of two or three years but plants were not seen in either pond in 2004.

Heteranthera dubia (Jacq.) MacM.—R; OCB; RIV, swift shallows; (03517).

Heteranthera reniformis Ruiz & Pavon—V; OCB; BM; (03528).

POTOMOGETONACEAE

Potomogeton diversifolius Raf.—R; WHR; RM; (02752).

Potomogeton foliosus Raf. subsp. *foliosus*—R; OCB; BM; (03523).

Potomogeton nodosus Poir.—V; OCB; RIV, swift shallows; (03520).

SMILACACEAE

†*Smilax bona-nox* L.—F; OCB, WHR; BDF, LKW, CG, BRIP, RIP, BO, RO; (00208).

Smilax glauca Walt.—I; ALL; OH, RB, FW, BDF; (00022).

Smilax hugeri (Small) J. B. Norton ex Pennell—S; WHR, OCB; RF, LKW; (00604).

Smilax lasioneura Hook.—S; WHR, OCB; OH, RF, BDF, PAS; (01472).

Smilax rotundifolia L.—O; ALL; OH, FW, BDF; (00200).

†*Smilax tamnoides* L.—I; WHR, OCB; RF, BRF, RIP, BRIP; (00162).

SPARGANIACEAE

Sparganium americanum Nutt.—R; WHR; RM; (03782).

TYPHACEAE

Typha angustifolia L.—V; WHR; RD, roadside ditch; (00995).

Typha latifolia L.—I; ALL; RM, BM, BWM, FP; (03693).

XYRIDACEAE

Xyris laxifolia Mart. var. ***iridifolia*** (Chapman) Kral.—V; EHR; WM; (06298).

ANGIOSPERMS: DICOTS

ACANTHACEAE

Justicia americana (L.) Vahl—I; OCB; RIV, GB; (03519).

Ruellia caroliniensis (J. F. Gmel.) Steud.—I; WHR; RB, RD; (00992).

Ruellia humilis Nutt.—S; OCB; CG, CB; (00784).

Ruellia strepens L.—S; OCB; LKW, BDF, CG; (04091).

ACERACEAE

Acer barbatum Michx.—S; WHR; RF; (05277).

Acer negundo L.—I; ALL; BRIP, RIP, FW; (00142 MTSU).

Acer nigrum Michx. f.—I; WHR, OCB; RF, BRF; (01922).

Acer rubrum L. var. *trilobum* Torr. & Gray ex K. Koch—O; ALL; OH, FW, RM, RD; (00826).

Acer saccharinum L.—O; OCB; BRIP, BM; (05319).

†*Acer saccharum* Marsh.—C; ALL; RF, BRF; (04499); [including both var. *saccharum* and var. *schneckii* Rehd.].

AMARANTHACEAE

**Achyranthes japonica* (Miq.) Nakai var. *hachijoensis* Honda—R; OCB; BRIP; (06419).

Amaranthus hybridus L.—I; OCB; CRP, DIS, RD; (03746).

**Amaranthus palmeri* S. Wats.—S; OCB; CRP, DIS, RD; (04175).

**Amaranthus powellii* S. Wats.—R; OCB; CRP; (05273).

**Amaranthus spinosus* L.—O; ALL; PAS, DIS; (02714).

ANACARDIACEAE

†*Rhus aromatica* Ait.—I; OCB; LKW, CG, CB, BO, BDF; (01970).

Rhus copallinum L. var. *latifolia* Engl.—O; ALL; RB, OH, BDF, PAS, RD; (03664).

†*Rhus glabra* L.—O; ALL; PAS, RD; (03672).

Rhus hirta (L.) Sudworth—S; OCB, WHR; BRF, PAS, RD; (03983).

Toxicodendron radicans (L.) Kuntze—C; ALL; OH, BDF, RF, BRF, FW, BRIP, RIP; (03675).

ANNONACEAE

Asimina triloba (L.) Dunal—F; ALL; RF, BRF, BRIP, RIP; (00401).

APIACEAE

Angelica venenosa (Greenway) Fern.—I; WHR; RB; (00976).

*†*Carum carvi* L.—V; OCB; RD; (R. Kral 64893, VDB).

†*Chaerophyllum procumbens* (L.) Crantz.—I; OCB; BRF, RF; (05839).

†*Chaerophyllum tainturieri* Hook—O; ALL; PAS, RD, DIS; (02316).

Cicuta maculata L.—R; OCB; BWM; (02835).

**Conium maculatum* L.—I; OCB; DIS, PAS, CRP, BWM, BRIP; (04501).

Cryptotaenia canadensis (L.) DC.—I; ALL; RF, BRF; (00943).

**Daucus carota* L.—F; ALL; PAS, DIS, RD, RB; (03656).

Erigenia bulbosa (Michx.) Nutt.—S; WHR; RF; (01634).

Eryngium prostratum Nutt. ex DC.—V; EHR; WM; (02791).

†*Eryngium yuccifolium* Michx.—V; WHR; RB; (R. Carter & T. Smith 3133, VDB).

Osmorhiza claytonii (Michx.) C. B. Clarke—I; ALL; RF, BRF, LKW; (00436).

Osmorhiza longistylis (Torr.) DC.—S; WHR, OCB; RF, LKW; (04911).

Oxypolis rigidior (L.) Raf.—S; WHR, OCB; AS, CS, ST, WM, BWM; (01184).

*†*Pastinaca sativa* L.—R; OCB; PAS, RD; (04942).

Perideridia americana (Nutt. ex DC.) Reichenb.—V; OCB; LKW; (02112).

†*Ptilimnium capillaceum* (Michx.) Raf.—S; EHR, OCB; WM, BM; (02774).

Sanicula canadensis L. var. *canadensis*—O; ALL; RF, BRF, BDF; (00945).

Sanicula odorata (Raf.) K. M. Pryer & L. R. Phillippe—I; WHR; RF; (00934).

Sanicula smallii Bickn.—R; WHR; OH; (02849).

Sanicula trifoliata Bickn.—S; WHR, OCB; RF, BRF; (02728).

†*Thaspium trifoliatum* (L.) Gray var. *aureum* Britt.—O; WHR; RF, RO; (02684).

**Torilis arvensis* (Huds.) Link—S; OCB; DIS, PAS, CG; (03704).

†*Zizia aurea* (L.) W. D. J. Koch—S; WHR; RIP; (02130).

APOCYNACEAE

Amsonia tabernaemontana Walt. var. *tabernaemontana*—V; WHR; RF; (04912).

Apocynum cannabinum L.—I; ALL; WM, BWM, RD; (00983).

Trachelospermum difforme (Walt.) Gray—V; WHR; WM; (04000).

**Vinca major* L.—R; OCB; RD, BDF; (01788).

**Vinca minor* L.—S; OCB, WHR; LAW, LAW; (01632).

AQUIFOLIACEAE

†*Ilex decidua* Walt.—S; OCB; BDF, RD; (06793).

Ilex longipes Chapman ex Trel.—R; WHR, OCB; OH, LKW; (02871).

Ilex opaca Ait.—S; WHR, OCB; OH, BDF; (00282).

Ilex verticillata (L.) Gray—R; EHR; FW; (00555).

ARALIACEAE

Aralia racemosa L.—V; WHR; RF; (01269).

Aralia spinosa L.—I; ALL; RF, BRF, OH; (00961).

*Δ *Hedera helix* L.—R; OCB; LAW, UT.

Panax quinquefolius L.—S; ALL; RF, BRF, LKW; (00933).

ARISTOLOCHIACEAE

Aristolochia serpentaria L.—I; WHR; RF; (02824).

†*Aristolochia tomentosa* Sims—I; OCB; BRIP; (03184).

Asarum canadense L.—O; ALL; RF, BRF; (01736).

ASCLEPIADACEAE

Asclepias amplexicaulis Sm.—R; WHR; RB; (03661).

Asclepias exaltata L.—V; WHR; RF; (02268).

Asclepias incarnata L. subsp. _incarnata_—I; ALL; WM, BWM, RM, BM; (03859).

Asclepias quadrifolia Jacq.—R; WHR; RF; (02129).

Asclepias syriaca L.—O; OCB; PAS, BRIP, RD; (03671).

Asclepias tuberosa L. subsp. _interior_ Woods.—O; ALL; PAS, RD, RB; (04918).

Asclepias variegata L.—S; WHR; RB, OH; (02249).

Asclepias verticillata L.—V; WHR; RO; (05158).

Asclepias viridiflora Raf.—R; OCB; CG, CB; (03715).

Asclepias viridis Walt.—R; OCB; CG, PAS; (02108).

Cynanchum laeve (Michx.) Pers.—I; OCB, WHR; DIS, BRIP, RD; (03514).

Matelea caroliniensis (Jacq.) Woods.—I; WHR; RF, RO; (02323).

†_Matelea gonocarpos_ (Walt.) Shinners—I; OCB, WHR; LKW, BDF, BO, RO; (00657).

ASTERACEAE

Achillea millefolium L.—O; ALL; PAS, DIS, RB, RD; (02138).

†_Ageratina altissima_ (L.) King & H. E. Robins.—I; OCB, WHR; RF, BRF, BDF, DIS, RD; (04066).

Ambrosia artemisiifolia L.—F; ALL; DIS, RB, CG, PAS, CRP, RD; (04068).

Ambrosia bidentata Michx.—R; WHR; RB; (02739).

Ambrosia trifida L.—O; OCB, WHR; BRIP, RIP, DIS, RD, PAS; (04067).

Amphiachyris dracunculoides (DC.) Nutt.—S; OCB, CG, CB, PAS; (04099).

†_Antennaria plantaginifolia_ (L.) Richards.—O; ALL; OH, BDF, LKW; (01715 APSC).

Antennaria solitaria Rydb.—S; WHR; OH; (01874).

*Anthemis cotula _L.—R; OCB, PAS; (04952)._

*_Arctium minus_ Bernh.—S; OCB; DIS, PAS; (06432).

Arnoglossum atriplicifolium (L.) H. E. Robins.—I; WHR; RF, RIP; (03872).

†_Arnoglossum muehlenbergii_ (Schultz-Bip.) H. E. Robins.—R; WHR; RF; (00950).

*_Artemisia annua_ L.—O; OCB; DIS, RD, PAS, CG; (04093).

†_Astranthium integrifolium_ (Michx.) Nutt. subsp. _integrifolium_—S; OCB; CG, CB, LKW; (01773).

*_Baccharis halimifolia_ L.—V; EHR; FW, DIS; (04202).

Bidens aristosa (Michx.) Britt.—I; WHR; WM, RM; (01517).

Bidens bipinnata L.—I; OCB; CG, LKW, BDF, DIS; (02887).

†_Bidens cernua_ L.—S; OCB; BWM; (04088).

Bidens frondosa L.—S; OCB; BWM, DIS; (05467).

Boltonia asteroides (L.) L'Hér—R; EHR; WM; (04190).

Brickellia eupatorioides (L.) Shinners—V; OCB; CG, CB; (04097).

*_Carduus nutans_ L.—F; ALL; DIS, PAS, RD, CG; (02041).

*_Centaurea biebersteinii_ DC.—R; OCB; RD; (D. Sunbrink CENMA-I-65MM5-5/21/98, TENN).

*_Centaurea cyanus_ L.—R; OCB; CRP, PAS; (02047).

Chrysopsis mariana (L.) Ell.—S; WHR; OH; (02898).

Chrysopsis pilosa Nutt.—R; WHR; RB; (02842).

*_Cichorium intybus_ L.—I; OCB; RD, PAS, DIS; (06438).

†_Cirsium altissimum_ (L.) Hill—I; WHR; RIP, RF; (01250).

Cirsium discolor (Muhl. ex Willd.) Spreng.—O; OCB, WHR; PAS, RB, RD; (05402).

Cirsium muticum Michx.—V; WHR; RB; (01301).

*†_Cnicus benedictus_ L.—X; OCB; alfalfa field; (T. T. Jackson 20432, TENN).

Conoclinium coelestinum (L.) DC.—O; ALL; WM, BWM, PAS, RD; (03857).

Conyza canadensis (L.) Cronq. var. _canadensis_—I; ALL; DIS, PAS, RD; (01191).

Conyza canadensis (L.) Cronq. var. _pusilla_ (Nutt.) Cronq.—R; WHR; RB; (02858).

Coreopsis lanceolata L.—V; OCB; highway roadcut; (02208 EKU).

Coreopsis major Walt.—O; WHR; OH, RB; (00033).

Coreopsis tinctoria Nutt.—R; WHR, OCB; RD, PAS; (00931).

Coreopsis tripteris L.—I; WHR; RB; (01183).

*_Crepis pulchra_ L.—R; OCB; CG; (03240).

Doellingeria infirma (Michx.) Greene—R; WHR; OH; (02905).

Doellingeria umbellata (P. Mill.) Nees var. _umbellata_—R; WHR; RM, WM; (02747).

*_Eclipta prostrata_ (L.) L.—I; ALL; BWM, WM, GB; (02761).

Elephantopus carolinianus Raeusch.—I; ALL; BDF, OH, PAS, RD; (01258 VDB).

Elephantopus tomentosus L.—S; WHR; OH; (02746).

Erechtites hieraciifolia (L.) Raf. ex DC.—I; ALL; RB, OH, DIS, RD; (04205).

Erigeron annuus (L.) Pers.—I; OCB, WHR; PAS, RD; (02453).

Erigeron philadelphicus L.—O; WHR, OCB; PAS, RD; (01811).

†_Erigeron pulchellus_ Michx.—S; WHR; OH, RF, RO; (00119).

@†*Erigeron strigosus* Muhl. ex Willd. var. *calcicola* J. Allison—S; OCB; CG; (03647) [Allison and Stevens 2001].

Erigeron strigosus Muhl. ex Willd. var. *strigosus*—O; ALL; PAS, RB, RD; (00783).

Eupatorium album L. var. *album*—R; WHR; RB; (02828).

Eupatorium altissimum L.—R; OCB; CG, CB; (04098).

Eupatorium capillifolium (Lam.) Small—I; ALL; PAS, RD, DIS; (04200).

†*Eupatorium fistulosum* Barratt—I; WHR, OCB; WM, BWM; (02837).

Eupatorium hyssopifolium L.—I; WHR, OCB; RB, CB; (02891).

Eupatorium perfoliatum L.—I; ALL; WM, BWM, RM, BM; (03853).

Eupatorium pilosum Walt.—R; EHR; FW; (05029).

Eupatorium × *pinnatifidum* Ell.—V; EHR; WM, FW; (04199).

Eupatorium purpureum L.—S; WHR; RF; (00948).

Eupatorium rotundifolium L. var. *ovatum* (Bigelow) Torr.—O; HR; RB, OH, WM; (03737).

Eupatorium serotinum Michx.—I; OCB, WHR; PAS, DIS; (01316).

Eupatorium sessilifolium L.—S; WHR; OH, RF; (01094).

Eurybia hemispherica (Alexander) Nesom—I; WHR; RB, OH; (01137).

Fleischmannia incarnata (Walt.) King & H. E. Robins.—I; OCB; BDF, LKW; (04170).

**Galinsoga quadriradiata* Cav.—R; OCB; RD; (00647).

Gamochaeta purpurea (L.) Cabrera—I; ALL; PAS, RB, OH, BDF, RD; (02066).

Grindelia lanceolata Nutt. var. *lanceolata*—R; OCB; CG, CB; (02687).

Helenium amarum (Raf.) H. Rock—O; ALL; PAS, CG, RD; (03706).

†*Helenium autumnale* L.—S; OCB, EHR; LWM, WM; (04193).

Helenium flexuosum Raf.—S; HR; WM; (00001).

Helianthus angustifolius L.—S; EHR; WM; (04198).

**Helianthus annuus* L.—V; OCB; RD; (05420).

Helianthus atrorubens L.—I; WHR; RB, OH; (01389).

Helianthus decapetalus L.—R; WHR; RF; (01093a,b).

Helianthus eggertii Small—R; WHR; RB; (02851).

Helianthus hirsutus Raf.—I; WHR; RB, OH; (01139).

Helianthus microcephalus Torr. & Gray—I; WHR; RB, OH; (01305).

Helianthus silphioides Nutt.—R; WHR; RB; (03755)

Helianthus strumosus L.—V; WHR; RF, RD; (03871).

†*Helianthus tuberosus* L.—O; OCB, WHR; BRIP, RIP; (01034).

Heliopsis helianthoides (L.) Sweet—I; WHR; RF; (04933).

Hieracium gronovii L.—I; WHR; OH, RB; (02903).

**Hypochaeris radicata* L.—R; WHR; PAS; (03756).

**Iva annua* L.—S; OCB; BWM; (05462).

†*Krigia biflora* (Walt.) Blake—O; WHR; OH; (00289).

†*Krigia caespitosa* (Raf.) Chambers—I; ALL; CRP, DIS, BWM, GB, WM, CG; (02214).

Krigia dandelion (L.) Nutt.—R; EHR; WM; (02056).

†*Lactuca canadensis* L.—O; ALL; PAS, RB, RD; (03665).

Lactuca floridana (L.) Gaertn.—I; WHR; RF, RIP, RD; (02917).

**Lactuca saligna* L.—R; OCB; RD; (06280).

**Lactuca serriola* L.—I; OCB; RD, PAS, DIS; (03674).

**Leucanthemum vulgare* Lam.—O; ALL; PAS, RD, CG, CB, DIS; (01772).

Liatris spicata (L.) Willd. var. *spicata*—S; WHR; RB; (02841).

Liatris squarrulosa Michx.—S; WHR; RB; (01522).

**Matricaria discoidea* DC.—V; OCB; CRP; (01670 VDB).

Mikania scandens (L.) Willd.—R; EHR, FW, WM, (04187).

Packera anonyma (Wood) W. A. Weber & A. Löve—O; ALL; RB, CG, CB, PAS; (02065).

†*Packera glabella* (Poir) C. Jeffrey—I; ALL; BWM, WM, CS, CRP, RD; (02097).

Packera obovata (Muhl. ex Willd.) W. A. Weber & A. Löve—I; WHR, OCB; OH, RO, LKW, BO; (00456).

Parthenium integrifolium L. var. *integrifolium*—I; WHR; RB; (02315).

Pluchea camphorata (L.) DC.—S; ALL; WM, BWM; (04082).

†*Polymnia canadensis* L.—I; OCB, WHR; LKW, BDF, BO, RF, RO; (02713).

Prenanthes altissima L.—I; WHR; RF; (01479).

Pseudognaphalium obtusifolium (L.) Hilliard & Burtt—S; WHR; RB; (01182).

Pyrrhopappus carolinianus (Walt.) DC.—I; ALL; BWM, WM, PAS, RB; (05163).

Ratibida pinnata (Vent.) Barnh.—R; OCB; rocky PAS; (04898).

Rudbeckia fulgida Ait. var. *fulgida*—R; WHR; RB; (01048).

†*Rudbeckia fulgida* Ait. var. *umbrosa* (C. L. Boynton & Beadle) Cronq.—R; WHR; CS, ST; (06787).

Rudbeckia hirta L. var. *hirta*—O; ALL; RB, OH, RD, PAS; (00982 VDB).

Rudbeckia hirta L. var. *pulcherrima* Farw.—I; OCB; PAS, RD; (00210).

Rudbeckia laciniata L. var. *laciniata*—I; WHR; RF, CS; (01053).

†*Rudbeckia triloba* L.—O; OCB; CG, CB, BDF, PAS, RD; (00779).

Sericocarpus linifolius (L.) B. S. P.—S; WHR; RB, OH; (01390).

Silphium asteriscus L. var. *asteriscus*—I; WHR; OH, RB, RF; (03752).

†*Silphium mohrii* Small—S; WHR; RB; (00922).

Silphium perfoliatum L.—S; OCB; BRIP, PAS, RD; (01342).

Silphium trifoliatum L. var. *latifolium* Gray—R; OCB; CG, CB; (01046).

Smallanthus uvedalius (L.) Mackenzie ex Small—I; HR; RF, RD; (05423).

Solidago arguta Ait. var. *caroliniana* Gray—I; WHR; RB, OH; (03681).

Solidago caesia L.—I; ALL; RF, BRF, BO, RO; (06794).

†*Solidago canadensis* L var. *scabra* Torr. & Gray—F; ALL; RB, PAS, RD; (04111).

Solidago erecta Pursh—I; WHR; OH; (02900).

Solidago flexicaulis L.—R; WHR; RF; (02726).

Solidago gigantea Ait.—I; ALL; WM, BWM; (01129).

Solidago hispida Muhl. ex Willd. var. *hispida*—I; WHR; OH; (02902).

Solidago missouriensis Nutt. var. *fasciculata* Holz.—R; WHR; RB; (01047).

Solidago nemoralis Ait.—O; WHR; RB, PAS; (01521).

Solidago odora Ait. var. *odora*—I; WHR; RB; (02869).

Solidago patula Muhl. ex Willd.—R; WHR; CS; (06379).

Solidago rugosa P. Mill. ssp. *aspera* (Ait.) Cronq.—I; HR; OH, RB, WM, FW; (06781).

Solidago sphacelata Raf.—R; WHR; RO; (02846).

Solidago ulmifolia Muhl. ex Willd.—I; WHR; OH; (05274).

**Sonchus asper* (L.) Hill—I; EHR, PAS; (02340).

Symphyotrichum cordifolium (L.) Nesom—I; WHR; RF; (01481).

Symphyotrichum drummondii (Lindl.) Nesom—S; OCB, WHR; BDF, RO; (05638).

Symphyotrichum dumosum (L.) Nesom—I; WHR; RB; (02868).

Symphyotrichum lanceolatum (Willd.) Nesom—S; WHR, OCB; WM, BWM; (05465).

Symphyotrichum lateriflorum (L.) A. & D. Löve—O; ALL; RF, BRF, PAS, RD; (01349 VDB).

Symphyotrichum ontarione (Wieg.) Nesom—R; OCB; PAS, LWM, BWM; (05645).

Symphyotrichum patens (Ait.) Nesom—I; WHR; RB, OH; (02972).

Symphyotrichum pilosum (Willd.) Nesom—F; ALL; PAS, RD, DIS; (01471).

Symphyotrichum priceae (Britt.) Nesom—R; OCB; CG; (06789).

Symphyotrichum shortii (Lindl.) Nesom—O; ALL; BDF, BO, RO, OH; (01382).

Symphyotrichum undulatum (L.) Nesom—R; WHR; RB, OH; (02974).

Symphyotrichum urophyllum (Lindl.) Nesom—O; WHR, OCB; RF, BRF, RO; (01536 VDB).

**Taraxacum laevigatum* (Willd.) DC.—R; OCB; RD; (01974).

**Taraxacum officinale* G. H. Weber ex Wiggers—F; ALL; PAS, RD, DIS, CRP; (06441).

Verbesina alternifolia (L.) Britt. ex Kearney—O; WHR, OCB; RIP, RF, BRIP, WM, BWM; (01261).

Verbesina virginica L.—O; WHR, OCB; RIP, BRIP, CG, CB, PAS; (01131).

†*Vernonia gigantea* (Walt.) Trel. ex Bran. & Cov.—F; ALL; PAS, RB, WM, BWM; (03860).

**Xanthium strumarium* L.—I; ALL; PAS, DIS; (04095).

BALSAMINACEAE

Impatiens capensis Meerb.—O; ALL; RF, BRF, WM, BWM, CS, AS; (01032).

Impatiens pallida Nutt.—R; WHR, OCB; RF, BRF; (01128).

BERBERIDACEAE

**Berberis bealei* Fortune—V; WHR; PAS; (05915).

*Δ *Berberis thunbergii* DC.—V; OCB; PAS.

†*Caulophyllum thalictroides* (L.) Michx.—R; WHR; RF; (02727).

Jeffersonia diphylla (L.) Pers.—S; WHR, OCB; RF, BRF; (00385).

*Δ *Nandina domestica* Thunb.—V; OCB; highway roadcut.

†*Podophyllum peltatum* L.—C; ALL; BRF, RF, BDF; (01746).

BETULACEAE

Alnus serrulata (Ait.) Willd.—O; HR; RIP, CS, AS, FW; (00316).

Betula nigra L.—S; ALL; RM, FW, BRIP; (01142).

Carpinus caroliniana Walt.—F; ALL; RF, BRF, RIP, BRIP; (02857).

Corylus americana Walt.—I; WHR; OH, RF; (00962).

†*Ostrya virginiana* (Mill.) K. Koch—O; ALL; BDF, LKW, OH, RF, BRF, BO, RO; (05278).

BIGNONIACEAE

†*Bignonia capreolata* L.—O; ALL; RF, BRF, BDF, LKW; (02046).

†*Campsis radicans* (L.) Seem ex Bureau—O; ALL; RF, BRF, BDF, RD; (02709).

**Catalpa bignonioides* Walt.—R; OCB; BRIP; (02189).

**Δ *Catalpa speciosa* (Warder) Warder ex Engelm.—S; OCB; BRIP.

BORAGINACEAE

*†*Buglossoides arvensis* (L.) I. M. Johnston—S; OCB; CG, RD, DIS; (01660).

Cynoglossum virginianum L.—I; ALL; BRF, BDF, LKW, RF; (01953).

*Δ *Heliotropium indicum* L.—R; EHR; FW.

Heliotropium tenellum (Nutt.) Torr.—R; OCB; CG, CB; (02690).

†*Lithospermum canescens* (Michx.) Lehm.—V; OCB; CG; (E. Quarterman 5268, VDB).

Lithospermum tuberosum Rugel ex DC.—I; WHR, OCB; OH, RF, BDF, LKW, RB; (02882).

Mertensia virginica (L.) Pers. ex Link—I; WHR, OCB; RIP, BRIP; (00127).

†*Myosotis macrosperma* Engelm.—O; ALL; RF, BRF, BDF, LKW; (01958).

†*Onosmodium molle* Michx. subsp. *molle*—S; OCB; CG, CB, PAS; (04849).

BRASSICACEAE

**Alliaria petiolata* (Bieb.) Cavara & Grande—S; OCB; BRF; (03182).

*†*Arabidopsis thaliana* (L.) Heynh.—R; EHR; CRP; (04394).

†*Arabis laevigata* (Muhl. ex Willd.) Poir. var. *laevigata*—O; ALL; RF, RO, BRF, BO, LKW; (01737).

*†*Barbarea verna* (P. Mill.) Aschers.—S; WHR; RD, RIP; (02134).

*†*Barbarea vulgaris* Ait. f.—O; ALL; PAS, RD; (00435).

*†*Brassica rapa* L.—O; ALL; CRP, PAS, RD, DIS; (00328).

*†*Capsella bursa-pastoris* (L.) Medik.—I; OCB; CRP, RD, DIS; (01748).

†*Cardamine angustata* O. E. Schulz—I; WHR; RF; (03039).

†*Cardamine bulbosa* (Schreb. ex Muhl.) B. S. P.—I; WHR; CS; (01727).

†*Cardamine concatenata* (Michx.) Sw.—F; ALL; BRF, RF; (01701).

Cardamine diphylla (Michx.) Wood.—R; OCB; BRF; (05832).

**Cardamine hirsuta* L.—C; ALL; CRP, DIS, BRF, BDF, RF, LKW; (01774).

†*Cardamine parviflora* L.—R; OCB, WHR; LKW, RO; (A. J. Sharp, C. J. Felix, & W. Adams 10930, TENN).

Cardamine pensylvanica Muhl. ex Willd.—S; WHR, OCB; CS, BWM; (04453).

†*Descurainia pinnata* (Walt.) Britt. subsp. *brachycarpa* (Richards) Detling—X; OCB; CG; (E. Quarterman, J. Baskin, & S. Oakland 64-52, VDB).

*†*Descurainia sophia* (L.) Webb ex Prantl—V; OCB; RD; (R. Kral 64884, VDB).

Draba brachycarpa Nutt. ex Torr. & Gray—R; EHR, OCB; CRP, CG; (04395).

**Draba verna* L.—I; OCB; CG, RD, DIS; (01661).

*†*Erysimum repandum* L.—R; OCB; CRP, RD; (03077).

Iodanthus pinnatifidus (Michx.) Steud.—S; WHR; RF; (02186).

†***Leavenworthia exigua*** Rollins var. ***exigua***—X; OCB; CG; (E. Quarterman, J. Baskin & S. Oakland 64-61, VDB).

†*Leavenworthia torulosa* Gray—S; OCB; CG, LWM; (01603).

*†*Lepidium campestre* (L.) Ait. f.—R; OCB; CG; (01964).

*†*Lepidium densiflorum* Schrad.—V; OCB; RD; (R. Kral 64894, 2 May 1980, VDB).

†*Lepidium virginicum* L.—I; OCB; CG, CB, PAS, RD, DIS; (03272).

†***Lesquerella densipila*** Rollins—R; OCB; CRP; (01672).

**Rorippa nasturtium-aquaticum* (L.) Hayek.—O; ALL; ST; (01768).

Rorippa sessiliflora (Nutt.) A.S. Hitchc.—R; OCB; BWM; (04396).

Sibara virginica (L.) Rollins—S; OCB, WHR; CRP; (01671).

*†*Sisymbrium officinale* (L.) Scop.—S; OCB; CG, RD; (01969).

**Thlaspi arvense* L.—R; OCB; RD; (01790).

BUXACEAE

Pachysandra procumbens Michx.—I; WHR; RF; (04910).

CACTACEAE

Opuntia humifusa (Raf.) Raf. var. *humifusa*—I; OCB; CG, CB, BO, PAS; (01626).

CALLITRICHACEAE

Callitriche heterophylla Pursh subsp. *heterophylla*—S; WHR; RM; (02203).

CAMPANULACEAE

†*Campanulastrum americanum* (L.) Small—I; WHR, OCB; RF, BRF; (00655).

Lobelia cardinalis L.—I; WHR; WM, RM, RIP, ST; (01134).

Lobelia inflata L.—I; WHR; RD; (02702).

Lobelia puberula Michx. var. *puberula*—I; WHR; RB; (01300).

†*Lobelia siphilitica* L.—O; ALL; BWM, WM; (05418).

Δ *Lobelia spicata* Lam.—V; OCB; CB.

†*Triodanis perfoliata* (L.) Nieuwl. var. *perfoliata*—I; WHR, OCB; DIS, RD; PAS; (02313).

CAPPARACEAE

**Cleome hassleriana* Chod.—V; WHR; GB; (02732).

CAPRIFOLIACEAE

**Lonicera fragrantissima* Lindl. & Paxton—R; WHR, OCB; RD, UT; (03038).

**Lonicera japonica* Thunb.—C, ALL; BRF, BDF, BWM, RF, WM, BRIP, RIP, PAS, RD; (02256).

**Lonicera maackii* (Rupr.) Herder—R; OCB; RD, UT; (05670).

†*Lonicera sempervirens* L.—I; WHR; OH, RO; (02081).

Sambucus nigra L. subsp. *canadensis* (L.) R. Bolli—O; ALL; BWM, BM, WM, RM, FW, BRIP, RIP, CS; (02826).

†*Symphoricarpos orbiculatus* Moench—C; ALL; BDF, LKW, OH, BRF, RF, BO, RD; (05644).

Viburnum dentatum L. var. *lucidum* Ait.—R; EHR; FW; (02790 EKU).

Viburnum nudum L. var. *nudum*—R; HR; FW, RM; (05013).

†*Viburnum rufidulum* Raf.—O; ALL; BDF, LKW, BRF, RF; (01973).

CARYOPHYLLACEAE

†***Arenaria lanuginosa*** (Michx.) Rohrb.—R; OCB, WHR; BO, RO; (02755).

*†*Arenaria serpyllifolia* L.—R; OCB; RD; (02194).

*†*Cerastium brachypetalum* Desportes ex Pers.—S; OCB; CG, RD; (01784).

Cerastium brachypodum (Engelm. ex Gray) B. L. Robins.—R; WHR; OH; (05906).

*†*Cerastium fontanum* Baumg. subsp. *vulgare* (Hartman) Greuter & Burdet—S; OCB; RD; (A. J. Sharp, C. J. Felix, & B. Adams 10957, TENN).

**Cerastium glomeratum* Thuill.—S; WHR; LAW; (02092 VDB).

†*Cerastium nutans* Raf.—S; WHR; RO, RF; (01924 VDB).

**Dianthus armeria* L.—I; OCB; RD, PAS; (02196).

**Holosteum umbellatum* L.—S; OCB; CRP, CG; (01674).

†*Minuartia patula* (Michx.) Mattf.—I; OCB; CG, CB, BO; (00363).

**Myosoton aquaticum* (L.) Moench—R; WHR; CS, ST; (02090 VDB).

**Saponaria officinalis* L.—I; OCB, WHR; RD, PAS; (01077).

**Silene latifolia* Poir. subsp. *alba* (P. Mill.) Greuter & Burdet—R; WHR; RD; (02723).

Silene stellata (L.) Ait. f.—S; WHR; RF; (01045).

†*Silene virginica* L.—O; ALL; RF, OH, RO, BRF, BDF; (00595).

Stellaria fontinalis (Short & Peter) B. L. Robins.—R, OCB; LWM; (03250).

**Stellaria media* (L.) Vill. subsp. *media*—C; ALL; RF, BRF, LKW, LAW, PAS, RD; (01867).

Stellaria pubera Michx.—I; HR; RF; (01810).

CELASTRACEAE

Celastrus scandens L.—V; WHR; RIP; (01529).

**Euonymus alata* (Thunb.) Sieb.—R; EHR; FW, OH; (02049).

†*Euonymus americana* L.—F; ALL; RF, BRF, LKW; (02122).

†*Euonymus atropurpurea* Jacq. var. *atropurpurea*—S; OCB; LKW, BDF, BRF; (02889).

**Euonymus fortunei* (Turcz.) Hand.-Maz.—R; OCB; UT, LKW; (05902).

**Euonymus kiautschovicus* Loesener.—R; OCB; BDF, RD, BRIP, UT; (05674).

CHENOPODIACEAE

**Chenopodium album* L.—O; ALL; DIS, RD, PAS, GB, CRP; (04172).

Chenopodium standleyanum Aellen—V; WHR; RF; (03981).

**Dysphania ambrosioides* (L.) Mosyakin & Clemants—I; OCB; PAS, GB, DIS; (01198).

CISTACEAE

Lechea minor L.—V; WHR; RB (05309).

†*Lechea mucronata* Raf.—S; WHR; RB; (02843).

CLUSIACEAE

Hypericum acutifolium Ell.—R; WHR; RB; (06776).

Hypericum crux-andreae (L.) Crantz—R; EHR; FW, WM: (02797).

Hypericum drummondii (Grev. & Hook.) Torr. & Gray—I; WHR; PAS, RB; (01189).

Hypericum frondosum Michx.—S; OCB; BO, BDF; (00985).

Hypericum gentianoides (L.) B. S. P.—R; WHR; RB; (02854).

Hypericum hypericoides (L.) Crantz subsp. *hypericoides*—S; HR; FW, OH, AS, WM; (02703).

†*Hypericum hypericoides* (L.) Crantz subsp. *multicaule* (Michx. ex Willd.) Robson—I; ALL; OH, BDF; (00023).

†*Hypericum mutilum* L.—I; ALL; WM, RM, BWM, BM; (01147).

**Hypericum perforatum* L.—R; OCB; RD; (04917).

Hypericum prolificum L.—R; OCB; BDF; (00774).

Hypericum punctatum Lam.—I; ALL; RB, PAS, OH, BDF; (01318).

Hypericum sphaerocarpum Michx.—I; OCB; CG, LWM, CB; (02688).

Triadenum virginicum (L.) Raf.—R; EHR; FW; (04189).

Triadenum walteri (J.G. Gmel.) Gleason—VR; WHR; CS; (06380).

CONVOLVULACEAE

Calystegia catesbiana Pursh—R; WHR; RB; (2078 VDB).

Calystegia silvatica (Kit.) Griseb. subsp. *fraterniflorus* (Mackenzie & Bush) Brummitt—F; OCB, WHR; BRIP, RIP, BWM, WM, RD; (03754).

**Dichondra caroliniensis* Michx. —R; OCB; LAW; (06440).

**Ipomoea coccinea* L.—R; OCB; RD; (01340).

**Ipomoea hederacea* Jacq.—S; OCB; CRP, DIS, RD; (05412).

†*Ipomoea lacunosa* L.—R; OCB; CRP; (01336).

†*Ipomoea pandurata* (L.) G. F. W. Mey.—I; WHR; OH, RB; (00991).

**Ipomoea purpurea* (L.) Roth—S; OCB; RD, CRP; (06881).

CORNACEAE

Cornus alternifolia L. f.—V; WHR; RF; (01757).

†*Cornus amomum* P. Mill.—I; ALL; WM, RM; ST, AS, CS, BWM; (01528).

†*Cornus drummondii* C. A. Mey.—I; OCB; BDF, LKW, BRIP, BO, CG, CB; (04108).

†*Cornus florida* L.—F; ALL; RF, BRF, BDF, OH; (01809).

Cornus foemina P. Mill.—R; EHR; FW; (02341).

Nyssa biflora Walt.—R; HR; RM, FW; (02793).

†*Nyssa sylvatica* Marsh.—O; ALL; OH, BDF, BRF, FW, RM; (02925).

CRASSULACEAE

†*Penthorum sedoides* L.—I; ALL; WM, BWM, RM, BM; (02725).

†*Sedum pulchellum* Michx.—I; OCB; CG, BO, LKW; (00455).

**Sedum sarmentosum* Bunge—R; WHR; RO; (02088).

Δ *Sedum ternatum* Michx.—S; WHR; RF, RO.

CUCURBITACEAE

**Citrullus vulgaris* (Thunb.) Matsumura & Nakai—V; WHR; DIS; (05302).

**Cucurbita pepo* L.—R; OCB; PAS, RD; (01194).

†*Melothria pendula* L.—R; EHR; FW; (04185).

Sicyos angulatus L.—I; OCB; BRIP; (04090).

CUSCUTACEAE

Cuscuta compacta Juss. ex Choisy—S; WHR; CS, ST, RIP; (01299).

Cuscuta gronovii Willd. ex J. A. Schultes—R; EHR; WM; (04203).

Cuscuta pentagona Engelm.—I; OCB, WHR; PAS, RD; (05429).

DIPSACACEAE

**Dipsacus fullonum* L.—R; OCB; PAS, RD; (05173).

EBENACEAE

Diospyros virginiana L.—F; ALL; PAS, BDF; (01908 MTSU).

ELAEAGNACEAE

**Elaeagnus umbellata* Thunb.—R; WHR, OCB; OH, RD, PAS; (03148).

ERICACEAE

Gaylussacia baccata (Wangenh.) K. Koch—V; EHR; FW; (02803).

†*Kalmia latifolia* L.—I; HR; OH, RO; (02894).

†*Oxydendrum arboreum* (L.) DC.—O; ALL; OH, BDF; (03658).

Rhododendron alabamense Rehd.—R; WHR; AS, OH; (01852).

Rhododendron canescens (Michx.) Sweet—I; HR; OH, FW, RM, AS, RB; (01872).

Rhododendron periclymenoides (Michx.) Shinners—R; HR; OH, AS; (01802).

†*Vaccinium arboreum* Marsh.—I; ALL;OH, RB, CB; (02888).

Vaccinium corymbosum L.—R; EHR; FW; (00038).

Vaccinium fuscatum Ait.—I; HR; OH, AS, FW, RM; (03026).

†*Vaccinium pallidum* Ait.—I; WHR; OH, RB; (00423).

Vaccinium stamineum L.—I; HR; OH, RB; (01758).

EUPHORBIACEAE

Acalypha gracilens Gray—R; WHR; RB; (02861).

Acalypha ostryifolia Riddell—I; OCB; CRP, PAS, RD; (04089).

†*Acalypha rhomboidea* Raf.—X; OCB; BO; (A. J. Sharp, S. Fairchild, & E. Clebsch 9859, TENN).

Acalypha virginica L.—O; ALL; RD, DIS, CRP, LWM, CG, GB; (05174).

**Chamaesyce maculata* (L.) Small—I; OCB; PAS, RD, DIS; (05392).

Chamaesyce nutans (Lag.) Small—I; ALL; PAS, RB, RD, CG, CB; (04125).

**Chamaesyce prostrata* (Ait.) Small—R; OCB; CRP, RD; (05320).

Croton capitatus Michx.—S; OCB; CG, CB; (05484).

†*Croton monanthogynus* Michx.—I; OCB; CG, CB, BO, RD; (05617).

Euphorbia corollata L.—I; WHR; RB, OH, RD; (01051).

**Euphorbia cyparissias* L.—R; OCB; RD, LAW; (01652).

Euphorbia dentata Michx.—I; OCB; BO, CG, CB; (00648).

Euphorbia mercurialina Michx.—R; OCB; BRF; (03185).

Phyllanthus caroliniensis Walt.—I; ALL; WM, BWM; (04118).

Tragia cordata Michx.—V; WHR; RO; (05159).

FABACEAE

**Albizia julibrissin* Durazz.—I; ALL; DIS, BRF, RF, RD; (00159).

†*Amorpha fruticosa* L.—S; WHR, OCB; WM, CG; (01130 APSC).

Amorpha nitens Boynt.—R; OCB; CG; (00780).

†*Amphicarpaea bracteata* (L.) Fern.—I; ALL; RF, BRF; (01599).

†*Apios americana* Medik.—I; ALL; WM, BWM, ST; (02855).

Apios priceana B. L. Robins.—R; WHR; RF, RO; (02710).

Astragalus canadensis L.—R; OCB; BO; (06275).

†*Cercis canadensis* L.—F; BDF, LKW, OH, RF, PAS; (01718).

Chamaecrista fasciculata (Michx.) Greene—I; ALL; PAS, RB, RD; (01317).

Chamaecrista nictitans (L.) Moench—S; WHR; RB; (02823).

Clitoria mariana L.—I; WHR; RB; (00233).

**Coronilla varia* L.—I; ALL; RD; (02181).

Crotalaria sagittalis L.—R; WHR; RB; (02852).

Desmanthus illinoensis (Michx.) MacM. ex B. L. Robins. & Fern.—R; OCB; BWM, PAS; (04126).

Desmodium ciliare (Muhl. ex Willd.) DC. var *ciliare*—S; WHR; RB; (02740).

Desmodium cuspidatum (Muhl. ex Willd.) DC. ex Loud.—R; WHR; RF; (01256).

Desmodium glutinosum (Muhl. ex Willd.) Wood—S; WHR; RF; (00994).

Desmodium laevigatum (Nutt.) DC.—R; WHR; RD; (06786).

Desmodium nudiflorum (L.) DC.—I; WHR; OH, RF; (03750).

Desmodium nuttallii (Schindl.) Schub.—I; OCB, WHR; PAS, RD, RB; (01319).

Desmodium paniculatum (L.) DC.—I; ALL; PAS, OH, FW; (04120).

†*Desmodium pauciflorum* (Nutt.) DC.—I; HR; RF; (00245).

Desmodium perplexum Schub.—R; WHR; RF; (01530).

Desmodium rotundifolium DC.—I; WHR; OH, RB; (02901).

Desmodium viridiflorum (L.) DC.—S; WHR; RB; (02856).

Galactia volubilis (L.) Britt.—I; WHR, OCB; RB, OH, CG, CB; (03705).

Gleditsia triacanthos L.—O; OCB; PAS, BRF, BRIP; (05400).

**Kummerowia stipulacea* (Maxim.) Makino—R; WHR; RD; (02706).

**Kummerowia striata* (Thunb.) Schindl.—F; ALL; PAS, LAW, RD; (05399).

**Lathyrus hirsutus* L.—R; EHR; WM, PAS; (02358).

*_Lathyrus latifolius_ L.—R; WHR; RD; (03740).

*_Lespedeza bicolor_ Turcz.—S; WHR; RD, PAS, RB; (03668).

*_Lespedeza cuneata_ (Dum.-Cours.) G. Don—C; ALL; PAS, RD, RB; (04071).

Lespedeza frutescens (L.) Hornem.—S; WHR; RB; (02878).

Lespedeza hirta (L.) Hornem. subsp. _hirta_—I; WHR; OH, RB; (02904).

Lespedeza procumbens Michx.—I; WHR, OCB; RB, OH, CB; (02862).

Lespedeza repens (L.) W. Bart.—S; WHR; RB; (03739).

Lespedeza violacea (L.) Pers.—R; OCB; CG; (05488).

Lespedeza virginica (L.) Britt.—I; WHR; RB; (01141).

*_Medicago lupulina_ L.—F; ALL; PAS, RD; (01786).

*_Melilotus albus_ Medik.—F; ALL; PAS, RD, DIS; (00755).

*_Melilotus officinalis_ (L.) Lam.—I; WHR; RD; (02079).

Mimosa microphylla Dry.—S; WHR; RB; (02314).

Orbexilum pedunculatum (P. Mill.) Rydb. var. _pedunculatum_—R; WHR; RB, OH; (02077).

Pediomelum subacaule (Torr. & Gray) Rydb.—V, possibly X; OCB; CG, moist soil; (D. McGavock 32, MTSU).

Phaseolus polystachios (L.) B. S. P.—R; WHR; RB; (01091).

*†_Pueraria montana_ (Lour.) Merr. var. _lobata_ (Willd.) Maesen & S. Almeida—S; OCB, WHR; DIS, RD; (03670).

**_Robinia hispida_ L. var. _hispida_—R; WHR; LAW, RD; (01185).

Robinia pseudoacacia L.—O; ALL; BDF, BRF, RF, PAS; (05286).

Senna marilandica (L.) Link—R; OCB, WHR; CG, PAS, RF; (06433).

*_Senna obtusifolia_ (L.) Irwin & Barneby—I; OCB, WHR; CRP; (05269).

Strophostyles umbellata (Muhl. ex Willd.) Britt.—I; WHR; RB; (02701).

Stylosanthes biflora (L.) B.S.P.—I; WHR; RB; (02700).

Tephrosia virginiana (L.) Pers.—I; WHR; RB; (02182).

*†_Trifolium campestre_ Schreb.—O; ALL; PAS, RD; (00600).

*_Trifolium incarnatum_ L.—R; OCB; CB; (01962).

*_Trifolium pratense_ L.—F; ALL; PAS, RD; (00770).

*_Trifolium repens_ L.—C; ALL; LAW, PAS, RD, CG; (03271).

†_Vicia caroliniana_ Walt.—I; WHR; RF, OH; (01722).

*_Vicia grandiflora_ Scop.—R; OCB; PAS, RD; (01770).

†_Vicia minutiflora_ F. G. Dietr.—I; OCB, WHR; LKW, BDF, RF; (00448).

*_Vicia sativa_ L. subsp. _nigra_ (L.) Ehrh.—I; OCB; PAS, RD; (01769).

*_Vicia villosa_ Roth subsp. _varia_ (Host) Corb.—S; WHR; RD; (01005).

FAGACEAE

Castanea dentata (Marsh.) Borkh.—S; WHR, OCB; OH, BDF; (00973).

*_Castanea mollissima_ Blume—R; OCB; RD, LAW; (00141).

†_Fagus grandifolia_ Ehrh.—F; ALL; BRF, RF, FW; (00135).

Quercus alba L.—F; ALL: OH, BDF, RF, BRF; (02924).

Quercus bicolor Willd.—V; OCB; BWM; (00988).

Quercus coccinea Munchh.—I; HR; OH; (05314).

Quercus falcata Michx.—O; HR; OH; (01311).

Quercus × _filialis_ Little—V; WHR; RM, WM; (02909).

†_Quercus imbricaria_ Michx.—S; OCB, WHR; BDF, OH; (04107).

Quercus lyrata Walt.—R; HR; RM, WM, FW; (02907).

Quercus marilandica Munchh.—S; HR; OH, RB; (02926).

Quercus michauxii Nutt.—R; OCB; BRIP; (02922).

Quercus montana Willd.—O; ALL; OH, BDF; (05904).

†_Quercus muehlenbergii_ Engelm.—C; ALL; LKW, BDF, BO, BRF, RF, RO; (04094).

Quercus nigra L.—S; EHR; FW; (04113).

†_Quercus pagoda_ Raf.—S; OCB; BDF, BRIP; (00007).

†_Quercus phellos_ L.—I; HR; FW, RM, WM, OH; (02910).

Quercus rubra L.—O; ALL; RF, BRF, LKW; (01476).

†_Quercus shumardii_ Buckl.—C; ALL; BDF, BRF, LKW, BO, RF; (05422).

Quercus stellata Wangenh.—O; ALL; OH, BDF; (04112).

Quercus velutina Lam.—O; ALL; OH, BDF; (00960).

FUMARIACEAE

†_Corydalis flavula_ (Raf.) DC.—I; OCB, WHR; BRF, BDF, RF, LKW; (03139).

Dicentra cucullaria (L.) Bernh.—R; WHR; RF; (01698).

GENTIANACEAE

Bartonia paniculata (Michx.) Muhl.—V; EHR; FW; (05388).

Bartonia virginica (L.) B.S.P.—V; WHR; AS; (01310).

Frasera caroliniensis Walt.—I; WHR, OCB; RF, OH, BDF, LKW; (00963).

Obolaria virginica L.—R; WHR; OH; (03140).

Sabatia angularis (L.) Pursh—I; WHR, OCB; RB, CG; (03712).

Sabatia brachiata Ell.—R; WHR; RB; (03651).

GERANIACEAE

Geranium carolinianum L. var. *carolinianum*—I; ALL; PAS, RD, CG; (01951).

**Geranium dissectum* L.—S; OCB; CRP, LAW, PAS; (01946).

Geranium maculatum L.—I; HR; RF; (01762).

**Geranium molle* L.—S; OCB; LKW, CG, CB; (01775).

GROSSULARIACEAE

Itea virginica L.—S; HR; AS, RM, WM, FW; (00549).

HALORAGACEAE

**Myriophyllum aquaticum* (Vell.) Verdc.—R; OCB; FP, BWM; (05280).

Proserpinaca palustris L.—R; HR; RM, FW, ST; (00561).

HAMAMELIDACEAE

Hamamelis virginiana L.—I; HR; RF; (01050).

Liquidambar styraciflua L.—O; ALL; FW, OH, BDF, RM; (00790).

HIPPOCASTANACEAE

Aesculus flava Ait.—I; ALL; BRF, RF; (05838).

†*Aesculus glabra* Willd.—I; OCB; BDF, PAS; (00818).

Aesculus × hybrida DC.—V; WHR; RF; (00408 VDB).

Aesculus pavia *L.—O; ALL; BRF, BDF, RF; (01798).*

HYDRANGEACEAE

†*Decumaria barbara* L.—R; WHR; RF, RIP; CS; (03757).

Hydrangea arborescens L.—R; OCB; BRF; (03515).

†*Hydrangea cinerea* Small—F; ALL; RF, BRF, RO, BO; (02452).

Hydrangea quercifolia Bartr.—R; WHR; OH; (02100).

Philadelphus hirsutus Nutt.—S; WHR; RF, RO; (02188).

†*Philadelphus pubescens* Loisel. var. *pubescens*—S; OCB; BO, BDF; (A. J. Sharp, S. Fairchild, & E. Clebsch 9864, TENN).

HYDROPHYLLACEAE

Hydrophyllum appendiculatum Michx.—I; OCB, WHR; BRF, RF; (01932).

Hydrophyllum macrophyllum Nutt.—R; WHR; RF; (02145).

†*Nemophila aphylla* (L.) Brummitt—O; OCB; LKW, BDF, BRF; (01717).

†*Phacelia bipinnatfida* Michx.—O; ALL; RF, BRF; (00402).

Phacelia dubia (L.) Trel. var. *interior* Fern.—V; OCB; CG; (01782).

†*Phacelia purshii* Buckl.—O; OCB; PAS, CG, RD; (03264).

JUGLANDACEAE

†*Carya cordiformis* (Wangenh.) K. Koch—O; ALL; RF, BRF; (05421).

Carya glabra (Mill.) Sweet—O; ALL; OH, RF, BDF, BRF; (00028).

Carya ovalis (Wang.) Sarg.—O; OCB, WHR; RF, BDF, BRF; (00057).

***Carya illinoinensis* (Wangenh.) K. Koch—R; OCB; RD; (02923).

Carya laciniosa (F. Michx.) Loudon—R; OCB; BRF, BDF; (05387).

†*Carya ovata* (P. Mill.) K. Koch var. *australis* (Ashe) Little—I; OCB; BDF, LKW, BO, CG, CB; (00611).

Carya ovata (P. Mill.) K. Koch var. *ovata*—F; ALL; BDF, OH, BRF, RF, LKW; (05406).

Carya tomentosa (Poir.) Nutt.—O; ALL; OH, BDF; (00139).

Juglans cinerea L.—S; ALL; RF, BRF, RIP; (00249).

Juglans nigra L.—F; ALL; BRIP, RIP, BRF, RF; (05285).

LAMIACEAE

†*Agastache nepetoides* (L.) Kuntze—S; WHR; RF, RIP; (R. Kral 36930, TENN).

*Δ *Ajuga reptans* L.—R; OCB; LAW.

Blephilia ciliata (L.) Benth.—I; OCB, WHR; CG, LKW, RF; (03273).

Blephilia hirsuta (Pursh.) Benth.—R; WHR, OCB; RF, BRIP; (03741).

*†*Calamintha nepeta* (L.) Savi—V; OCB; BDF, BO; (01003 VDB).

Collinsonia canadensis L.—I; WHR; RF; (01533).

Cunila origanoides (L.) Britt.—R; WHR; OH; (02973).

**Glechoma hederacea* L.—O; ALL; PAS, LAW, RD, RF, BRF; (01702).

Hedeoma hispida Pursh—R; OCB; PAS; (04895).

Isanthus brachiatus (L.) B. S. P.—I; OCB; CG; (05650).

*†*Lamium amplexicaule* L.—F; ALL; PAS, LAW, RD; (01619).

**Lamium purpureum* L.—F; ALL; PAS, LAW, RD; (00360).

Lycopus americanus Muhl. ex W. Bart.—S; OCB, EHR; LWM, FW; (06788).

Lycopus rubellus Moench—I; WHR, OCB; CS, BWM; (01267).

Lycopus virginicus L.—I; OCB; BWM, BM; (05250).

*†*Marrubium vulgare* L.—X; OCB; thin limestone soil; (A. J. Sharp, C. J. Felix, & B. Adams 10968, TENN).

**Mentha* × *piperita* L.—O; WHR, OCB; WM, BWM, BM; (01038).

†*Monarda bradburiana* Beck—S; WHR; OH, RB, RF; (02076).

Monarda fistulosa L.—I; WHR; RB; (00964).

*†*Perilla frutescens* (L.) Britt.—F; ALL; PAS, DIS, RD, GB; (04069).

**Prunella vulgaris* L.—O; ALL; PAS, BWM, RD; (00940).

†*Pycnanthemum loomisii* Nutt.—O; WHR; RB, RD, PAS, OH; (02845).

Pycnanthemum muticum (Michx.) Pers.—R; EHR; WM; (06303).

Pycnanthemum tenuifolium Schrad.—I; WHR; RB; (03650).

†*Salvia lyrata* L.—O; ALL; PAS, RD, OH, BDF, LKW, CG, CB; (00609).

Salvia urticifolia L.—R; WHR; OH, RB; (02252).

Scutellaria elliptica Muhl. ex Spreng. var. *hirsuta* (Short & Peter) Fern.—I; WHR; RF; (05151).

Scutellaria incana Biehler var. *incana*—R; WHR; WM; (00581).

Scutellaria integrifolia L.—R; EHR; WM; (02338).

Scutellaria lateriflora L.—I; WHR, OCB; WM, BWM; (01265).

Scutellaria ovata Hill—R; OCB; BDF; (00656).

†*Scutellaria parvula* Michx. var. *parvula*—S; OCB; CG, CB; (01785).

†*Teucrium canadense* L.—I; OCB; BWM, BM, PAS; (03491).

Trichostema dichotomum L.—V; WHR; RB; (02860).

LAURACEAE

†*Lindera benzoin* (L.) Blume var. *benzoin*—O; ALL; RF, BRF, RIP, BRIP; (02977).

Lindera benzoin (L.) Blume var. *pubescens* (Palmer & Steyermark) Rehd. —R; OCB; BM; (03886).

†*Sassafras albidum* (Nutt.) Nees—O; ALL; OH, BDF, PAS, RB; (03657).

LINACEAE

Linum medium (Planch.) Britt. var. *texanum* (Planch.) Fern.—R; WHR; RB; (02741).

Linum striatum Walt.—I; HR; WM; (02795).

†*Linum virginianum* L.—R; WHR; RD, RB; (03686).

LOGANIACEAE

Mitreola petiolata (J.F.Gmel.) Torr. & Gray—R; EHR; FW; (02792).

Spigelia marilandica (L.) L.—O; ALL; RF, BRF, BDF, BO, RO; (00993).

LYTHRACEAE

Ammannia coccinea Rottb.—R; OCB; BWM; (05414).

Cuphea viscosissima Jacq.—S; OCB; LWM, CG, CB, BO; (02875).

Rotala ramosior (L.) Koehne—I; ALL; WM, BWM, RM, FP; (04079).

MAGNOLIACEAE

Liriodendron tulipifera L.—C; ALL; RF, BRF; (00136).

Magnolia acuminata (L.) L.—R; WHR; RF; (01755 VDB).

**Magnolia grandiflora* L.—R; OCB; LAW, RD; (06268).

†*Magnolia macrophylla* Michx.—R; HR; RF; (02121).

MALVACEAE

†*Hibiscus moscheutos* L. subsp. *moscheutos*—I; ALL; WM, RM, FW, BWM, BM; (01133).

**Hibiscus syriacus* L.—S; WHR, OCB; RF, RD, LAW; (06444).

**Hibiscus trionum* L.—V; OCB; CRP; (01339).

Malvastrum hispidum (Pursh.) Hochr.—R; OCB; CG; (05631).

*†*Sida spinosa* L.—O; ALL; PAS, DIS, RD, CG; (05482).

MELASTOMATACEAE

Rhexia mariana L. var. *interior* (Pennell) Kral & Bostick—R; HR; RM, FW; (02796 VDB).

Rhexia mariana L. var. *mariana*—S; EHR; WM; (02769).

Rhexia virginica L.—S; HR; WM, FW; (02704).

MENISPERMIACEAE

Calycocarpum lyonii (Pursh) Gray—S; OCB, WHR; BRIP, RF; (03734).

Cocculus carolinus (L.) DC.—O; OCB, WHR; BDF, BRF, RO, LKW, CG, RD; (01470).

†*Menispermum canadense* L.—I; WHR, OCB; RF, BRF; (03694).

MOLLUGINACEAE

Mollugo verticillata L.—I; OCB; CRP; (01177).

MONOTROPACEAE

Monotropa uniflora L.—V; WHR; RF; (02830).

MORACEAE

**Broussonetia papyrifera* (L.) L'Hér. ex Vent.—S; OCB; UT, BDF, RD, LAW; (05315).

**Maclura pomifera* (Raf.) Schneid.—O; OCB; PAS, BDF, LAW; (04106).

**Morus alba* L.—R; EHR, OCB; UT; (05016).

Morus rubra L.—O; ALL; BRF, BDF, BRIP, RIP, RF; (03875).

OLEACEAE

Chionanthus virginicus L.—S; WHR; OH, FW; (02794).

†*Forestiera ligustrina* (Michx.) Poir.—I; OCB; LKW, CG, CB, BDF, BO; (02873).

**Forsythia viridissima* Lindl.—R; OCB; LAW; (03033).

Fraxinus americana L.—F; ALL; RF, BRF, BDF, (05279).

†*Fraxinus pennsylvanica* Marsh.—O; ALL; BRIP, RIP, BM, RM, BWM, WM, FW; (00154).

†*Fraxinus quadrangulata* Michx.—I; OCB; LKW, CG, BDF, BO, BRF; (00653).

**Jasminum nudiflorum* Lindl.—R; OCB; RD; (01604).

**Ligustrum sinense* Lour.—C; ALL; BRIP, RIP, BRF, RF, BDF, LAW, LKW; (02198).

ONAGRACEAE

†*Circaea lutetiana* L. subsp. *canadensis* (L.) Aschers & Magnus—I; HR; RF; (00949).

†*Epilobium coloratum* Biehler—S; OCB, WHR; BWM, WM; (R. Kral 36940, VDB).

Ludwigia alternifolia L.—I; ALL; WM, RM, BWM, BM, AS; (02705).

Ludwigia decurrens Walt.—S; WHR, OCB; WM, BWM, FP, GB; (01330).

Ludwigia glandulosa Walt.—R; OCB; BWM; (05427).

Ludwigia linearis Walt.—V; EHR; WM; (02778).

Ludwigia palustris (L.) Ell.—O; ALL; RM, BM, WM, BWM, ST, FP; (01146).

**Ludwigia uruguayensis* (Camb.) H. Hara—V; WHR; ST; (06266).

Oenothera biennis L.—O; ALL; PAS, RD; (02919).

†*Oenothera laciniata* Hill—S; OCB; CG, DIS, RD, CRP; (01966).

**Oenothera speciosa* Nutt.—S; EHR, OCB; RD; (00558).

Oenothera triloba Nutt.—S; OCB; CG; (01779).

OROBANCHACEAE

Conopholis americana (L.) Wallr. f.—S; WHR, OCB; RF, BRF, LKW; (01787).

†*Epifagus virginiana* (L.) W. Bart.—S; WHR; RF; (01534).

OXALIDACEAE

Oxalis illinoensis Schwegm.—R; WHR; RF; (01929).

†*Oxalis priceae* Small subsp. *priceae*—S; OCB; CG; (01949).

Oxalis stricta L.—F; ALL; PAS, DIS, RD, LAW, RB, OH, BDF, GB; (02067).

†*Oxalis violacea* L.—I; OCB, WHR; CG, LKW, BO, RO; (01721).

PAPAVERACEAE

*Δ *Papaver dubium* L.—R; OCB; RD.

†*Sanguinaria canadensis* L.—O; ALL; RF, BRF; (01664).

Stylophorum diphyllum (Michx.) Nutt.—R; HR; RF; (01803).

PASSIFLORACEAE

†*Passiflora incarnata* L.—F; PAS, RD; (03747).

Passiflora lutea L.—S; WHR; RF; (01251).

PHYTOLACCACEAE

Phytolacca americana L. var. *americana*—F; ALL; PAS, RD; (00763).

PLANTAGINACEAE

Plantago aristata Michx.—R; WHR; PAS, RB; (01192).

**Plantago lanceolata* L.—F; ALL; PAS, LAW, RD; (00938).

Plantago rugelii Dcne.—F; ALL; PAS, LAW, RD; (00951).

Plantago virginica L.—I; WHR, OCB; RD, CG; (01901).

PLATANACEAE

Platanus occidentalis L.—C; ALL; BRIP, RIP, BM, BWM, RM, WM, FW; (04930).

PODOSTEMACEAE

Podostemum ceratophyllum Michx.—R; OCB; RIV, swift shallows; (03488).

POLEMONIACEAE

†*Phlox amoena* Sims—R; WHR; RB; (00351).

†*Phlox divaricata* L. subsp. *divaricata*—O; HR; RF, RIP; (01723).

†*Phlox glaberrima* L.—R; WHR; AS; (00956).

Phlox paniculata L.—R; WHR, OCB; RIP, RF, BRIP, RD; (03532).

Polemonium reptans L.—O; ALL; RF, BRF, RIP; (01734).

POLYGALACEAE

Polygala ambigua Nutt.—R; WHR; RB; (02742).

Polygala cruciata L.—V; EHR; WM; (06301).

Polygala incarnata L.—R; WHR; RB; (02853).

Polygala sanguinea L.—S; HR; WM, RM; (01148).

POLYGONACEAE

**Polygonum aviculare* L.—S; ALL; RD, GB; (02354).

*†*Polygonum caespitosum* Blume var. *longisetum* (de Bruyn) A. N. Steward—O; ALL; GB, ST, BRIP, RIP, RF, BRF, DIS, (03699).

**Polygonum cuspidatum* Seib. & Zucc.—R; OCB; UT; (06436).

*†*Polygonum hydropiper* L.—X; WHR; RM; (A. J. Sharp, E. Clebsch, & A. Clebsch 9822, TENN).

Polygonum hydropiperoides Michx.—I; ALL; WM, RM, BWM, BM, FW; (02760).

Polygonum lapathifolium L.—S; ALL; WM, BWM; (05162).

†*Polygonum pensylvanicum* L.—O; WHR, OCB; WM, BWM; (05463).

**Polygonum persicaria* L.—I; OCB; BWM, RD, DIS; (05168).

†*Polygonum punctatum* Ell.—I; EHR, OCB; WM, BWM; (03858).

Polygonum sagittatum L.—S; HR; WM; (01381).

†*Polygonum scandens* L.—S; WHR; RO; (06328).

Polygonum setaceum Baldw.—R; WHR; GB, ST; (01253).

†*Polygonum virginianum* L.—O; ALL; RF, BRF, BDF, LKW; (01127).

**Rumex acetosella* L.—I; ALL; PAS, RD; (01854).

Rumex altissimus Wood—I; ALL; BWM, BM, WM, RM; (02062).

**Rumex conglomeratus* Murr.—V; OCB; BWM; (06442).

**Rumex crispus* L. subsp. *crispus*—F; ALL; PAS, DIS, RD; (02204).

**Rumex obtusifolius* L.—R; WHR; RD; (02829).

PORTULACACEAE

†*Claytonia virginica* L.—O; ALL; RF, BRF, BDF; (01699).

†***Phemeranthus calcaricus*** (S. Ware) Kiger—R; OCB; CG; (03703).

**Portulaca oleracea* L.—I; OCB; CG, CRP, RD; (04102).

PRIMULACEAE

Dodecatheon meadia L.—R; WHR; RF; (03134 MTSU).

Lysimachia ciliata L.—R; WHR; RIP; (05294).

**Lysimachia nummularia* L.—S; OCB; BWM, BRIP; (02201).

Lysimachia quadrifolia L.—R; WHR; RF; (03679).

†*Samolus valerandi* L. subsp. *parviflorus* (Raf.) Hultén—S; WHR, OCB; CS, ST, GB; (03761).

PYROLACEAE

Chimaphila maculata (L.) Pursh—F; ALL; OH, BDF; (00231).

RANUNCULACEAE

†*Actaea pachypoda* Elliott—I; ALL; RF, BRF; (01807 APSC).

†*Anemone acutiloba* (DC.) G. Lawson—O; HR; RF; (00317).

Anemone americana (DC.) H. Hara—R; WHR; OH; (01633).

Anemone quinquefolia L. var. *quinquefolia*—R; WHR; RF; (03137).

†*Anemone virginiana* L.—I; WHR, OCB; RB, CG, CB, BDF; (01049).

†*Aquilegia canadensis* L.—I; ALL; BO, RO, LKW, CG; (00342).

Cimicifuga rubifolia Kearney—R; WHR; RF; (02912).

†*Clematis catesbyana* Pursh—R; OCB; CG, CB, BDF; (03252).

**Clematis terniflora* DC.—R; OCB; RD; (01341).

†*Clematis versicolor* Small ex Rydb.—R; OCB; BO, BDF; (06423).

Clematis viorna L.—R; WHR; RF; (04914).

Clematis virginiana L.—O; OCB, WHR; BRIP, RIP, RD; (01260).

**Consolida ajacis* (L.) Schur—V; OCB; LKW; (03645).

†*Delphinium tricorne* Michx.—I; OCB, WHR; BRF, RF, LKW; (01794).

Enemion biternatum Raf.—R; WHR; RF; (01696).

Hydrastis canadensis L.—S; WHR, OCB; RF, BRF; (01266).

†*Myosurus minimus* L.—R; OCB; PAS, CRP, RD; (E. Quarterman 5261, VDB).

†*Ranunculus abortivus* L.—O; ALL; BRIP, RIP, LAW, RD, PAS, FW, BRF, RF; (01669).

**Ranunculus bulbosus* L.—S; OCB; RD; (05837).

†*Ranunculus fascicularis* Muhl. ex Bigelow—S; OCB; CG, CB, LKW; (00343).

Ranunculus hispidus Michx. var. *hispidus*—I; WHR; RF, OH; (01865).

Ranunculus hispidus Michx. var. *nitidus* (Chapman) T. Duncan—S; EHR, OCB; WM, FW, BWM; (01668).

†*Ranunculus micranthus* Nutt.—S; OCB; LKW, BO; (01778).

*†*Ranunculus parviflorus* L.—V; OCB; RD; (R. Kral 64879, 2 May 1980, VDB).

Ranunculus pusillus Poir.—S; ALL; WM, BWM; (02054).

†*Ranunculus recurvatus* Poir.—I; HR; RF; (00602).

**Ranunculus sardous* Crantz—C; ALL; PAS, RD, LWM, CG; (00939 VDB).

†*Thalictrum dioicum* L.—R; WHR; RF, RO; (01868).

Thalictrum revolutum DC.—S; WHR, OCB; WM, BWM; (03865).

†*Thalictrum thalictroides* (L.) Eames & B. Boivin—F; ALL; RF, BRF, LKW; (01667).

RHAMNACEAE

Berchemia scandens (Hill) K. Koch—S; OCB, WHR; BRF, RF; (02128).

Ceanothus americanus L.—S; WHR; RB; (00232).

Frangula caroliniana (Walt.) Gray—O; ALL; BRF, BDF, LKW, RF, PAS, RD; (03646).

Rhamnus lanceolata Pursh.—R; OCB; LKW, CG; (02885).

ROSACEAE

Agrimonia parviflora Ait.—S; WHR, OCB; WM, BWM; (01132).

Agrimonia pubescens Wallr.—S; OCB; BDF; (01178).

†*Agrimonia rostellata* Wallr.—I; WHR; RF; (01262).

Amelanchier arborea (Michx. f.) Fern.—O; HR; OH, RB, FW; (00128).

Amelanchier canadensis (L.) Medik.—R; WHR; RB, OH: (02141).

**Chaenomales speciosa* (Sweet) Nakai—V; OCB; BDF (06273).

Crataegus calpodendron (Ehrh.) Medik.—S; WHR, OCB; RF, BRF; (01915).

Crataegus collina Chapm.—R; OCB, WHR; PAS; (03771).

Crataegus crus-galli L.—S; OCB, WHR; PAS, BDF, OH, RB; (03854).

Crataegus intricata Lange—O; ALL; PAS, RF, BRF, BDF; (02137).

Crataegus marshallii Egglest.—R; EHR; FW; (00552).

Crataegus pruinosa (Wendl. f.) K. Koch—R; OCB, WHR; PAS, BDF; (00226).

Crataegus spathulata Michx.—V; OCB; BDF; (s.n.).

**Duchesnea indica* (Andr.) Focke—F; ALL; PAS, RD, LAW; (05967).

Fragaria virginiana Duchesne—R; OCB; CG; (04458).

†*Geum canadense* Jacq.—I; WHR, OCB; RF, BRF, LKW; (00944).

†*Geum vernum* (Raf.) Torr. & Gray—R; OCB; BRF; (01975).

†*Geum virginianum* L.—X; OCB, WHR; densely wooded slopes; (H. K. Svenson 8811, TENN).

Malus angustifolia (Ait.) Michx.—S; HR; RB, OH, PAS; (01754).

**Malus pumila* P. Mill.—R; OCB; PAS, LAW; (00252).

Photinia melanocarpa (Michx.) Robertson & Phipps—R; HR; FW, RB; (03186).

Photinia pyrifolia (Lam.) Robertson & Phipps—I; HR; AS, RM, WM, FW; (01847).

Physocarpus opulifolius (L.) Maxim.—V; OCB; BO; (00836 APSC).

Porteranthus stipulatus (Muhl. ex Willd.) Britt.—S; WHR; OH, RB; (02251).

**Potentilla recta* L.—I; OCB; RD, PAS, CG, CB; (02099).

†*Potentilla simplex* Michx.—I; WHR; OH, RB; (01857); [Plants of cedar glades and cedar barrens in the county may belong to the variety *argyrisma* Fern. while plants from other habitats seem to belong to the typical variety].

Prunus americana Marsh.—O; ALL; BDF, BRF, RF, PAS, RD, CG; (01795).

†*Prunus angustifolia* Marsh.—O; OCB; PAS, RD, CG; (01320).

**Prunus caroliniana* Ait.—V; OCB; UT, RD; (00352).

**Prunus cerasifera* Ehrh.—R; OCB; PAS; (05409).

Prunus hortulana Bailey—R; OCB; RD; (01745).

*Δ *Prunus mahaleb* L.—R; OCB; BDF, LAW.

†*Prunus mexicana* S. Wats.—S; OCB; BDF, PAS; (00260 VDB).

Prunus munsoniana W. Wight & Hedrick—R; WHR; RD; (00248).

**Prunus persica* (L.) Batsch—I; ALL: RD, PAS, LAW; (06446).

Prunus serotina Ehrh.—F; ALL; BRF, RF, BDF, OH, PAS; (01791).

**Pyracantha fortuneana* (Maxim.) Li—V; OCB; PAS; (05632).

**Pyrus calleryana* Decne.—R; EHR; RD; (05424).

**Pyrus communis* L.—S; OCB; PAS, LAW; (05968).

Rosa carolina L.—S; OCB, WHR; CG, CB, RB; (02109).

**Rosa multiflora* Thunb. ex Murr.—F; ALL; PAS, BDF, BRF, RF, BRIP, RIP, RD; (05293).

Rosa setigera Michx.—O; OCB, WHR; BDF, PAS, RD, BWM; (03890).

Rubus alumnus Bailey—R; WHR; OH; (00032).

Rubus argutus Link—C; ALL; PAS, RD; (05410).

*Δ *Rubus bifrons* Vest ex Tratt—R; OCB; PAS, RD.

**Rubus discolor* Weihe & Nees—R; EHR; RD; (05425).

Rubus flagellaris Willd.—I; HR; RB, OH, PAS; (00398).

Rubus occidentalis L.—I; ALL: BRF, RF, BDF; (06445).

Rubus pensilvanicus Poir.—R; EHR; RF; (05405).

*Δ *Rubus phoenicolasius* Maxim.—V; OCB; BRF.

Rubus trivialis Michx.—R; OCB; RD; (01789).

**Spiraea prunifolia* Seib. & Zucc.—S; WHR, OCB; RD, LAW; (01700).

**Spiraea thunbergii* Seib.—R; OCB; CG, LAW: (01615).

RUBIACEAE

†*Cephalanthus occidentalis* L.—I; ALL; WM, RM, BWM, BM, FW, FP; (00764).

**Cruciata pedemontana* (Bellardi) Ehrend.—R; OCB; RD; (02195).

Diodia teres Walt.—O; ALL; PAS, RB, CB, CG, RD; (01190).

†*Diodia virginiana* L.—I; OCB, WHR; BWM, WM, PAS; (01143).

†*Galium aparine* L.—F; ALL; BRF, RF, LKW, PAS, RD, BRIP, RIP; (01961).

Galium circaezans Michx.—I; ALL; RF, BRF, LKW; (05147).

*†*Galium mollugo* L.—V; OCB; PAS; (R. Kral 64888, VDB).

Galium obtusum Bigelow—R; EHR; FW; (00554).

**Galium parisiense* L.—R; OCB; RD; (06439).

†*Galium pilosum* Ait.—I; WHR; RB, PAS; (00761).

Galium tinctorium L.—I; ALL; WM, BWM; (02833).

Galium triflorum Michx.—O; ALL; RF, BRF, LKW, RO, BO; (02451).

Houstonia caerulea L.—I; HR; OH; (00429).

Houstonia purpurea L. var. *calycosa* Gray—S; OCB; CG, CB; (03274).

Houstonia purpurea L. var. *purpurea*—I; ALL; RF, OH, BRF, BDF; (02126).

Houstonia pusilla Schoepf—S; OCB, WHR; PAS, CRP; (01635).

†*Mitchella repens* L.—S; HR; FW, OH; (05394).

*†*Sherardia arvensis* L.—I; OCB; PAS, LAW; (01939).

RUTACEAE

**Poncirus trifoliata* (L.) Raf.—S; OCB; PAS, BDF; (05835).

Ptelea trifoliata L.—R; OCB; BDF, BRIP; (03742).

SALICACEAE

**Populus alba* L.—S; WHR; RD, LAW; (03873).

*Δ *Populus* × *canescens* (Ait.) Sm.—V; OCB; PAS.

Populus deltoides Bartr. ex Marsh.—I; OCB; BRIP, BWM, BM, DIS; (01971).

*Δ *Populus nigra* L.—V; WHR; PAS.

Salix caroliniana Michx.—I; WHR, OCB; RIP, GB; (03749).

Salix humilis Marsh. var. *humilis*—R; WHR; RB; (01910).

Salix interior Rowlee.—I; OCB; BWM, BM, BRIP, GB, RD; (01948).

Salix nigra Marsh.—F; ALL; BRIP, RIP, BM, RM, BWM, WM, FP; (00160).

**Salix* × *sepulcralis* Simonkai—R; OCB; RD, BRIP; (05969).

Salix sericea Marsh.—R; WHR; WM, ST; (00066).

SAPINDACEAE

**Cardiospermum halicacabum* L.—S; OCB; BWM, PAS; (01201).

SAPOTACEAE

†*Sideroxylon lycioides* L.—I; OCB; BDF, LKW, CG, CB; (05633).

SAURURACEAE

Saururus cernuus L.—R; OCB, EHR; BM, BWM, FW; (03887).

SAXIFRAGACEAE

†*Heuchera americana* L. var. *americana*—S; WHR; RF; (02133).

†*Heuchera villosa* Michx.—O; ALL; RO, BO, LKW; (06281); [Giles County material is referable to var. *macrorhiza* (Small) Rosl, But. & Lak.].

Mitella diphylla L.—R; WHR; CS, RF; (01766).

†*Saxifraga virginiensis* Michx.—O; ALL; RO, BO, LKW, RF, BRF; (01622).

Tiarella cordifolia L. var. *collina* Wherry—O; HR; RF; (03135).

SCROPHULARIACEAE

Agalinis gattingeri (Small) Small—S; WHR; RB, OH; (02914).

Agalinis purpurea (L.) Pennell—R; EHR; WM, FW; (04184).
Aureolaria flava (L.) Farw.—I; WHR; OH; (02897).
Aureolaria pectinata (Nutt.) Pennell—S; WHR; RB, OH; (03683).
†*Aureolaria virginica* (L.) Pennell—R; EHR; FW, OH; (02798).
†*Chelone glabra* L.—I; WHR, OCB; WM, BWM, CS, AS, ST; (01302).
Dasistoma macrophylla (Nutt.) Raf.—S; WHR, OCB; RF, RD, BDF; (00935).
†*Gratiola neglecta* Torr.—S; EHR, OCB; WM, FW, BWM; (02059).
Gratiola pilosa Michx.—R; EHR; WM; (05020).
Gratiola virginiana L.—S; HR; FW, AS; (03190).
Leucospora multifida (Michx.) Nutt.—R; OCB; CRP; (05318).
Lindernia dubia (L.) Pennell var. *anagallidea* (Michx.) Cooperrider—V; WHR; RB, DIS; (06791).
Lindernia dubia (L.) Pennell var. *dubia*—S; EHR, OCB; WM, BWM; (05014).
Mecardonia acuminata (Walt.) Small var. *acuminata*—R; OCB; LWM, CG; (02893).
†*Mimulus alatus* Ait.—I; HR; WM; (05022).
**Paulownia tomentosa* (Thunb.) Sieb. & Zucc. ex Steud.—O; ALL; BRF, RF, RD; (05404).
Pedicularis canadensis L.—S; WHR; RF; (02131).
†*Penstemon calycosus* Small—I; OCB, WHR; PAS, RD, BRIP, BO; (02098).
†*Penstemon tenuiflorus* Pennell—R; OCB; CG, CB; (03269).
Scrophularia marilandica L.—R; OCB, WHR; BRF, RF; (05155).
**Verbascum blattaria* L.—I; OCB, PAS, CG, RD; (03639).
**Verbascum thapsus* L.—F; ALL; PAS, RD; (00965).
*†*Veronica agrestis* L.—R; OCB; CRP, RD; (00321).
Δ *Veronica anagallis-aquatica* L.—R; OCB; ST.
*†*Veronica arvensis* L.—I; ALL; RD, DIS, BDF; (01759).
**Veronica hederifolia* L.—R; WHR; RO; (01720).
**Veronica peregrina* L. subsp. *peregrina*—I; OCB, WHR; CRP, RD, DIS; (02093 APSC).
**Veronica persica* Poir.—R; OCB; RD, LAW; (04351).
**Veronica polita* Fries.—R; WHR; RD; (00122 VDB).
Veronicastrum virginicum (L.) Farw.—R; WHR; RB; (02707).

SIMAROUBACEAE

**Ailanthus altissima* (P. Mill.) Swingle—O; ALL; BRF, BDF, RF, RD; (05312).

SOLANACEAE

**Datura stramonium* L.—I; ALL: PAS, RD, DIS; (04128).
*Δ *Nicandra physalodes* (L.) Gaertn.—R; OCB; CRP.
Physalis angulata L.—I; OCB, WHR; CRP, DIS, RD; (01335).
Physalis heterophylla Nees—S; OCB; CG; (04921).
†*Physalis longifolia* Nutt. var. *subglabrata* (Mackenzie & Bush) Cronq.—I; OCB; RD, PAS; (01206).
Physalis virginiana Mill. var. *virginiana*—R; WHR; OH, RB; (02250).
Solanum carolinense L. var. *carolinense*—O; ALL; PAS, RD, DIS; (02312).
Solanum ptychanthum Dunal—S; WHR; RF, RB; (05290).

STAPHYLEACEAE

†*Staphylea trifolia* L.—F; ALL; RF, BRF, BRIP, RIP, LKW; (01526).

STYRACACEAE

Styrax americanus Lam.—R; EHR; FW; (02071).
Styrax grandifolius Ait.—S; WHR; OH; (02082).

THYMELAEACEAE

†*Dirca palustris* L.—I; WHR, OCB; RF, BRF; (02976).

TILIACEAE

†*Tilia americana* L. var. *americana*—I; ALL: RF, BRF; (03874).
†*Tilia americana* L. var. *heterophylla* (Vent.) Loud.—F; ALL; RF, BRF; (04900).

ULMACEAE

†*Celtis laevigata* Willd.—F; ALL; BDF, LKW, PAS, BRIP, RIP; (03709).
Celtis occidentalis L.—R; WHR; RIP; (02920).
Celtis tenuifolia Nutt.—R; OCB, WHR; LKW, CG, RB; (01388 VDB).
Ulmus alata Michx.—O; ALL; LKW, BDF, PAS, OH; (01618).
†*Ulmus americana* L.—I; ALL; BRIP, RIP, BDF; (00082).
*Δ *Ulmus pumila* L.—R; OCB; PAS, RD, LAW.
Ulmus rubra Muhl.—O; ALL; RF, BRF; (03765).
Ulmus serotina Sarg.—I; OCB, WHR; BRF, BDF, RF, PAS; (02921).

URTICACEAE

Boehmeria cylindrica (L.) Sw.—I; ALL: WM, RM, BWM, BM; (00942).

Laportea canadensis (L.) Weddell—I; ALL; RF, BRF, RIP, BRIP; (00941).

†*Parietaria pensylvanica* Muhl. ex Willd.—S; WHR; RF, RO; (04915).

†*Pilea pumila* (L.) Gray—I; ALL; RF, BRF, ST; (05167).

†*Urtica chamaedryoides* Pursh.—I; ALL; RF, BRF; (01799).

VALERIANACEAE

Valeriana pauciflora Michx.—R; WHR; RF; (01913).

*†*Valerianella locusta* (L.) Lat.—I; OCB; PAS, DIS; (04456).

†*Valerianella radiata* (L.) Dufr.—O; WHR, OCB; PAS, RD, RF; (02125 APSC).

†*Valerianella umbilicata* (Sullivant) Wood—I; OCB; CRP, RD, PAS, LWM; (04455).

VERBENACEAE

†*Callicarpa americana* L.—I; OCB; BDF, LKW; (03648).

Glandularia canadensis (L.) Nutt.—R; OCB; CG; (01704).

Phryma leptostachya L.—I; ALL; RF, BRF, BDF; (00667).

†*Phyla lanceolata* (Michx.) Greene—I; ALL; WM, BWM; (02832).

**Verbena brasiliensis* Vell.—R; OCB; PAS, BRIP; (03489).

Verbena hastata L.—R; WHR; WM, RM; (03753).

Verbena simplex Lehm.—O; OCB, WHR; CG, CB, PAS, BO, RD, RB; (02043).

Verbena urticifolia L.—I; OCB, WHR; PAS, RD; (00778).

VIOLACEAE

Hybanthus concolor (T. F. Forst) Spreng.—I; WHR; RF; (01763).

†*Viola bicolor* Pursh—O; ALL; RD, PAS, CRP; (00362).

Viola cucullata Ait.—I; WHR, OCB; CS, ST, WM, BWM; (00378).

Viola egglestonii Brainerd—R; OCB; CG; (01624).

Viola hirsutula Brainerd—S; WHR; OH; (03142).

†*Viola palmata* L.—I; ALL; BDF, RF, BRF, LKW; (02132).

Viola × *primulifolia* L.—R; WHR; RM; (00464).

†*Viola pubescens* Ait. var. *scabriuscula* Schwein. ex Torr. & Gray—O; ALL; BRF, RF; (00404 APSC).

Viola sagittata Ait.—R; WHR; RB; (03147).

†*Viola sororia* Willd.—O; RF, BRF, PAS, LAW, BRIP, RIP; (01695).

†*Viola striata* Ait.—I; ALL; RF, BRF, RIP, BRIP; (01797).

Viola tripartita Ell.—S; WHR; RF, OH; (02031); [Giles County material is referable to variety *glaberimma* (DC.) Harper].

Viola walteri House—R; OCB, WHR; BRF, RF; (03061).

VISCACEAE

Phoradendron leucarpum (Raf.) Reveal & M.C. Johnston—I; OCB; epiphytic on trees; (05675).

VITACEAE

***Ampelopsis arborea* (L.) Koehne—R; OCB; BWM; (05317).

†*Ampelopsis cordata* Michx.—I; OCB; BRIP; (05316).

Parthenocissus quinquefolia (L.) Planch.—F; ALL; RF, BRF, RIP, BRIP, LKW; (05305).

Vitis aestivalis Michx. var. *aestivalis*—O; ALL; OH, BDF; (02267).

Vitis cinerea (Engelm.) Millard var. *baileyana* (Munson) Comeaux—S; WHR; RF, RIP; (02266).

Vitis rotundifolia Michx.—O; ALL; OH, BDF; (00191).

†*Vitis vulpina* L.—F; OCB, WHR; BRIP, RIP, BWM; (05419).

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